Drug Markets

THE JOHN CREAR
JUL 25 1930
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July 1930

The Magazine of the Manufacturing Drug Trade

THE Sun Tube CORPORATION
MAKERS OF
ARTISTIC COLLAPSIBLE TUBES
HILLSIDE, N. J.
Ingram's Twins,...
A,...S.T.,...has,...in six months, met the entire demand for Ingram's in tubes, ...a demand, which, added to Ingram's in jars,...should move Ingram's into the first three of the world's fine shaving creams.
Pres
P.S. ,...you can depend on Sun Tubes.
Ingram's
SHAVING CREAM
BRISTOL-MYERS CO., New York

BEFORE AND AFTER

THE INTRODUCTION OF ALSOP EQUIPMENT

Step by step, *ALSOP «Hy-Speed»* Liquid Handling Equipment has wrought a great change in production methods. Economy no longer permits processing liquid products and their ingredients . . . cosmetics, pharmaceuticals, barber-supplies . . . by old-fashioned, wasteful methods.

MIXING "THE PORTABLE WAY"

«Hy-Speed» Portable Electric Mixers do their work more thoroughly, rapidly and economically than the most elaborate, bulky equipment. Yet they can be *moved from tank to tank* as readily and quickly as the old-fashioned paddle. Many types, many sizes are made to handle every conceivable liquid mixing job. Capacity from one to 50,000 gal.

FILTERING BY INTERNAL PRESSURE

«Hy-Speed» Internal Pressure Filter forces light liquids rapidly through two layers of filter cloth and one layer of French Filter Paper. Speedily, it produces a highly polished, crystal-clear product. Semi-automatically, it is cleaned for the next batch in two minutes. Portable, it operates from light socket. Low in original cost, it is inexpensive to operate.

STORING IN GLASS-LINED STEEL SAFETY

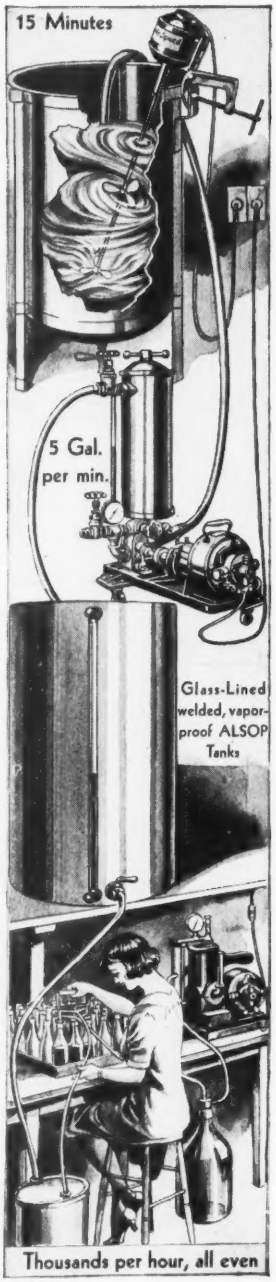
«ALSOP» Glass-Lined Tanks are lined inside, coated outside, with acid-resisting, easy-to-clean glass. Liquids stored or processed in them are safe from the contamination of acid salts. Long usefulness is assured by their unusual resistance to corrosion and hard knocks. They are made in many useful sizes from five to two hundred gallons.

FILLING BY ELECTRIC VACUUM POWER

«Hy-Speed» Vacuum Electric Bottle Fillller revolutionized the commercial filling of bottles when first introduced years ago. Bottles of every size and shape are filled at ten times the speed of old hand methods, at much lower cost. Instantly adjustable to different sizes, different liquids, it fills every container evenly, rejects imperfect bottles instantly.

Your plant can be made more efficient by adding *«Hy-Speed»* units to increase capacity and efficiency.

Write for specifications and catalogue



ALSOP ENGINEERING CO.

Manufacturers of *«Hy-Speed»* Portable Electric Liquid Mixers, Mixing Tanks, Filters, Pumps, and *«ALSOP»* Glass-Lined Mixing and Storage Tanks.

39 West 60th Street, New York City

Acetphenetidin . . U. S. P.

Our broad experience in the manufacture of a long list of pharmaceutical chemicals, plus rigidly maintained high standards of quality, is your assurance that Dow Acetphenetidin will meet your specifications effectively. In addition to meeting all requirements of the U. S. P., this Dow product brings you unusual purity and uniformity. Try it for complete satisfaction. ¶ Dow Acetphenetidin is available for both spot and contract deliveries from Midland, New York and Saint Louis. Packed in barrels containing 150 pounds net, and kegs containing 100 pounds net. ¶ Let us quote on your requirements.

A PARTIAL LIST OF DOW PHARMACEUTICAL CHEMICALS

Acetphenetidin, U. S. P.
Bromine, Purified
Minor Bromides
Chloroform, U. S. P.
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Ferric Chloride, U. S. P., Solution or Crystals
Phenol, U. S. P.
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Acetyl Salicylic Acid, Granulation, 10% Starch
Methyl Salicylate, U. S. P. (Synthetic Wintergreen)
Sodium Salicylate, U. S. P.
Salicylic Acid, U. S. P.
Minor Salicylates

THE DOW CHEMICAL COMPANY—MIDLAND, MICHIGAN

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July 1930

Drug Markets

Established 1914

The Magazine of the Manufacturing Drug Trade

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Coming Issues

Now that conventions and their attending controversial discussions have passed for a time, we shall attempt to give more space to the interesting things that are being done by manufacturers in a merchandising way.

Not only will the subject of merchandising in this country be treated, but as time goes on we shall devote more space to a very important series of articles covering the subject of merchandising abroad.

Controversial marketing and scientific subjects will continue to be treated in a manner still more interesting than that employed in the past.

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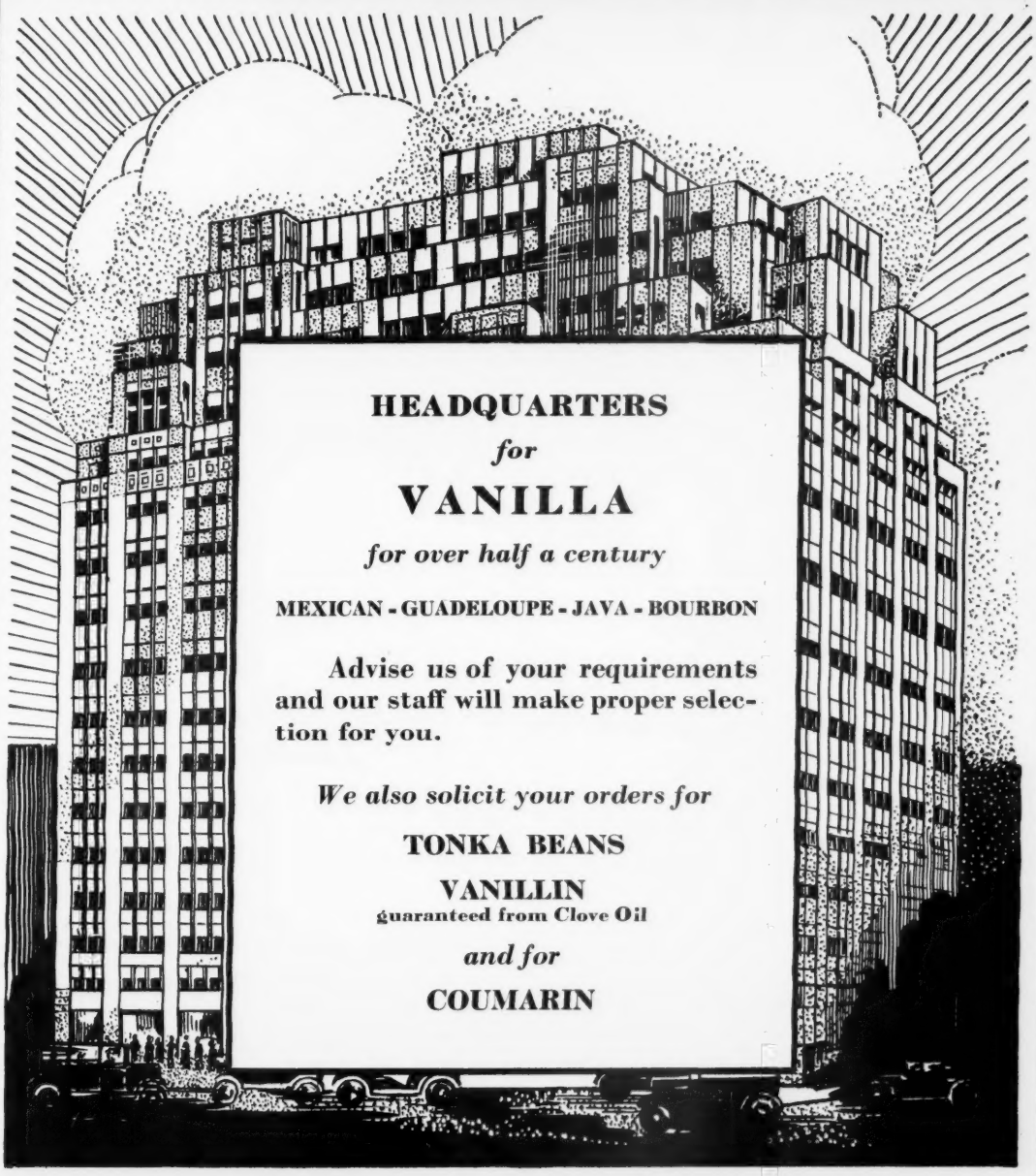
D&O
ESTABLISHED IN 1798

ESSENTIAL OILS
and Kindred Products



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for
VANILLA
for over half a century

MEXICAN - GUADELOUPE - JAVA - BOURBON

Advise us of your requirements and our staff will make proper selection for you.

We also solicit your orders for

TONKA BEANS

VANILLIN
guaranteed from Clove Oil

and for

COUMARIN

DODGE AND OLCOTT COMPANY
180 Varick Street New York City

"The integrity of the house is reflected in the quality of its products."

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{ Buyers' Guide }

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American Solvents & Chemical Corp.
Pennsylvania Sugar Co
The Rossville Com. Alcohol Corp.
U. S. Industrial Alcohol Co.

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Euro American Corporation
Fritzsche Brothers, Inc.
Givaudan Delawanna, Inc.
Magnus, Mabee & Reynard Inc.
Newport Chemical Works, Inc.
Schering Corporation
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E. M. Javitz & Son
Norwegian Cod Liver Oil Association

CRUDE DRUGS

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McIlvaine Brothers, Inc.
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Euro American Corporation
Fritzsche Brothers, Inc.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Newport Chemical Works, Inc.
Plaimar, Ltd.
A. M. Todd Co.
Ungerer & Co.
van Ameringen-Haebler, Inc.
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California Fruit Growers Exchange
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Euro American Corporation
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Magnus, Mabee & Reynard, Inc.
Ungerer & Co.
van Ameringen-Haebler, Inc.
Wangler-Budd Co., Inc.

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Coignet Gelatines

GLYCERIN

H. J. Baker & Bro.
Colgate-Palmolive-Peet Co.
Harshaw Chemical Co.
Will & Baumer Candle Co., Inc.

LANOLIN

E. M. Javitz & Son Inc.

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Chas. Cooper & Co.
Dow Chemical Co.
R. W. Greeff & Co.
Harshaw Chemical Co.
Heyden Chemical Corp.
Hoffmann-LaRoche, Inc.
Adolphe Hurst & Co., Inc.
Mallinckrodt Chemical Works
Merck & Co., Inc.
Monsanto Chemical Works
Newport Chemical Works, Inc.
N. Y. Quinine & Chemical Works, Inc.
Chas. Pfizer & Co., Inc.
Schering Corporation
Wilckes-Martin-Wilckes Co.

MINERAL OIL

M. W. Parsons Imports
Schliemann Companies, Inc.

SOAPS

J. L. Hopkins & Co.
John Powell & Co., Inc.

VANILLIN

Euro American Corporation
Fritzsche Bros., Inc.
Givaudan Delawanna Inc.
Magnus, Mabee & Reynard, Inc.
Monsanto Chemical Works

CONTAINERS

ADHESIVES

Nat'l. Adhesives Corp.

BOTTLES

Carr-Lowrey Glass Co.
Owens-Illinois Glass Co.

BOXES (Corrugated)

Container Corp. of America
Hinde & Dauch Paper Co.

CANS

American Can Co.

COLLAPSIBLE TUBES

Aluminum Co. of America
Bond Mfg. Corporation
New England Collapsible Tube Co.
Sun Tube Corp.
White Metal Mfg. Co.
A. H. Wirz, Inc.

PACKING MATERIAL

Kimberly-Clark Corp.

CLOSURES

CORKS

Armstrong Cork Co.

INSIDE THREAD CAPS

Spring Stopper Co.

LINERS

Bond Mfg. Corp.
General Felt Products, Inc.

METAL CAPS

Aluminum Co. of America
Anchor Cap & Closure Corp.
Crown Cork & Seal Co.
Ferd. Gutmann & Co.
Phoenix Hermetic Co.
Williams Sealing Corp.

PLASTIC CAPS

General Plastics, Inc.

MACHINERY & EQUIPMENT

FILLING MACHINES

Alsop Engineering Co.
Arthur Colton Co.
Horix Manufacturing Co.
The Karl Kiefer Machine Co.
Scientific Filter Co.
F. J. Stokes Machine Co.
Stokes & Smith Co.

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Alsop Engineering Co.
Arthur Colton Co.
Scientific Filter Co.
F. J. Stokes Machine Co.

PACKING & CARTONING

Package Machinery Co.
Stokes & Smith Co.

LABELING EQUIPMENT

Economic Machinery Co.

PHARMACEUTICAL MACHINERY

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Scientific Filter Co.
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"Hit and Miss" Methods

never had a place in the lab!

Pfaudler glass lined equipment assures that accuracy of laboratory control will be duplicated in the plant.

An indispensable part of every chemical laboratory is its glass beakers, test tubes, graduates, pipe, etc.. Why ? Is it not because glass can be relied upon for accuracy ?

The world's leading chemical manufacturers are using Pfaudler glass equipment in great quantities. Sanitation, durability, adaptability for varied operations, and resistance to corrosion are its outstanding characteristics.

"Hit and miss" methods have no place in the lab. The commercial success of any applied laboratory experiment is no better than the handling equipment permits.

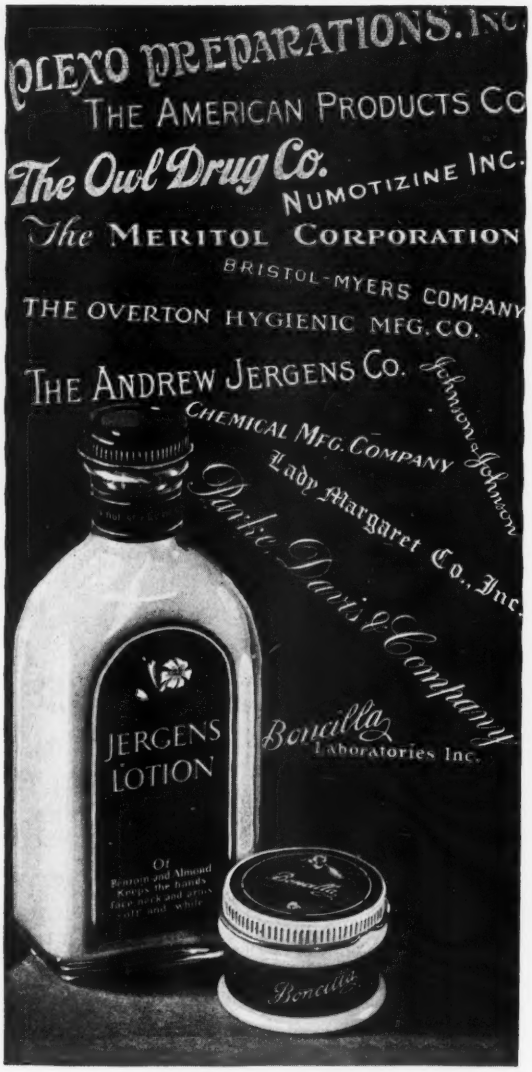
Pfaudler glass lined equipment—acid-resisting glass backed by steel—is the plant edition of laboratory testing apparatus.

In the 42 years Pfaudler equipment has been manufactured, it has demonstrated superior lasting qualities, to say nothing of operating advantages, time and time again. Send for our new catalogs.

THE PFAUDLER CO., *Chemical Div.*, Rochester, N. Y.

GLASS LINED EQUIPMENT—ACID-RESISTING—SANITARY

ANCHOR AMERSEAL CAPS . . . approved by hundreds of manufacturers as the most efficient closures for toiletries

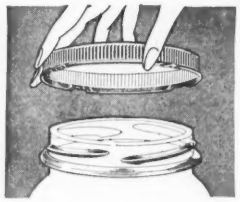


MANUFACTURERS of high grade creams and lotions cannot risk closures that are "pretty good" or "safe enough usually". They demand complete protection against leakage, evaporation, change of any kind in the product. Their success depends upon it. Hence, leaders in this industry (some of whose names appear at the right) choose the ANCHOR AMERSEAL CAP for all toiletries—products that are used often, a little at a time. They realize that no other closure has earned such popular approval as this trim cap that opens so easily by a quarter turn and recloses securely by a reverse turn. With no threads to gum, freeze or cement to the container, the process of opening and reclosing is as simple and efficient the hundredth time as the first. And always the quality of the product is maintained . . . till the last bit is used.

Manufacturers also appreciate the efficiency of ANCHOR AMERSEAL CAPS in the factory. Because of their quick application by hand or machine (three or four times as fast as other types of closures) they cut down the cost of operation, facilitate rush orders. Finally, ANCHOR AMERSEAL CAPS are unusually attractive, particularly when lithographed with your own design in colors to harmonize with your label . . . adding greatly to the self-advertising value of the package. For all these reasons and others equally urgent which we are eager to explain to you, the ANCHOR AMERSEAL CAP deserves serious consideration for your products. Send us the coupon below by the next mail, and you will promptly receive full details.

Anchor Cap & Closure Corporation
LONG ISLAND CITY, N. Y. TORONTO, CANADA

19,250,000 advertisements in The Saturday Evening Post and The Ladies' Home Journal are increasing the already great demand for products packed in glass under Anchor Amerseal Caps. Seal your products with Amerseals and get your share of this business. See our advertisements in The Saturday Evening Post and The Ladies' Home Journal.



A quarter turn to the right applies the Anchor Amerseal Cap. Lugs, formed to fit the contour of the glass threads, draw the cap down and effect a tight uniform contact around the complete top edge of the container finish.

MANUFACTURERS: To secure full information about Anchor Amerseal Caps fill in and mail coupon!

Send detailed advantages of using Anchor Amerseal Caps on our packages

Name .....

Address .....

.....

We manufacture .....
and put out about ..... packages per year. Under separate cover we are sending empty samples of our packages.

The World War, as the conflict from 1914 to 1918 between the leading nations of the earth is termed, created political, economic and sociological changes which have profoundly influenced the growth and destiny of America. Our entry into the war on April 6, 1917, threw a weight of resources to the Allies that brought eventual victory over the Central Powers.

SALES OFFICES & WAREHOUSES

Baltimore, Md.
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Indianapolis, Ind.
Kansas City, Mo.
Memphis, Tenn.
Minneapolis, Minn.
Nashville, Tenn.
New York, N. Y.
Omaha, Nebr.
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Pittsburgh, Pa.
St. Louis, Mo.
San Francisco, Cal.
St. Paul, Minn.
Toledo, Ohio
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"See American First"

American

Odorless, Colorless, "Everclear" ALCOHOL

Confidence in drugs is the direct outgrowth of purity. That implies the selection of raw materials of unimpeachable quality.

Give thought to the selection of your Alcohol. We unreservedly recommend "Everclear". It should be an ingredient of drugs whose outstanding appeal is quality.

"Everclear" Alcohol is notable for clearness and absence of odor. It is produced in our grain-fields plant by an exclusive process originated in our laboratories. These facts should be your guide to satisfaction in Alcohol.

This is number 17 of a series depicting historical periods in the development of America

AMERICAN
COMMERCIAL ALCOHOL CORPORATION
420 Lexington Avenue, New York, N. Y.
Plants:
Pekin, Ill. Gretna, La. Philadelphia, Pa. Sausalito, Cal.

COLLAPSIBLE
TUBES
SPRINKLER
TOPS
WHITE METAL MANUFACTURING CO.
HOBOKEN ~ NEW JERSEY

FLEXIBILITY

STOKES & SMITH American Fillers have flexibility to the *n*th degree. Here are three distinctly different containers — all filled with equal facility.

This Universal Machine is filling 126 different kinds of materials — powdered and granular products, pastes and creams.

Capacities, ½ ounce up to 5 pounds; 15 to 25 containers per minute.

Send us samples for estimate.

STOKES & SMITH COMPANY

Package Filling, Sealing and Weighing Machines, Tight Wrapping Machines, Envelope Sealers

4912 Summerdale Avenue • • PHILADELPHIA, U. S. A.

Dispensers that *Speed* Sales

Leak-proof Sprinkler Tops. A complete line in gold, nickel and bakelite finishes.

THE package has been the outstanding reason for the rapid success of many products.

People like the convenience of containers that dispense, keep the product clean and fresh and are easy to recognize.

That explains the popularity of products packed in tubes.

Perhaps you, too, have a product, the sale of which could be speeded up in WIRZ tubes. We'll gladly assist you to get a design that displays to advantage.

A. H. WIRZ, Inc.

ESTABLISHED 1836

Collapsible Tubes — Chester, Pennsylvania — *Metal Sprinkler Tops*

NEW YORK
30 East 42nd Street
Phone: MURray Hill 3447

CHICAGO
Railway Exchange Bldg.
Jackson and Michigan
Phone: HARrison 3015-3016

LOS ANGELES
1231 E. Seventh Street
Phone: TUCker 4150

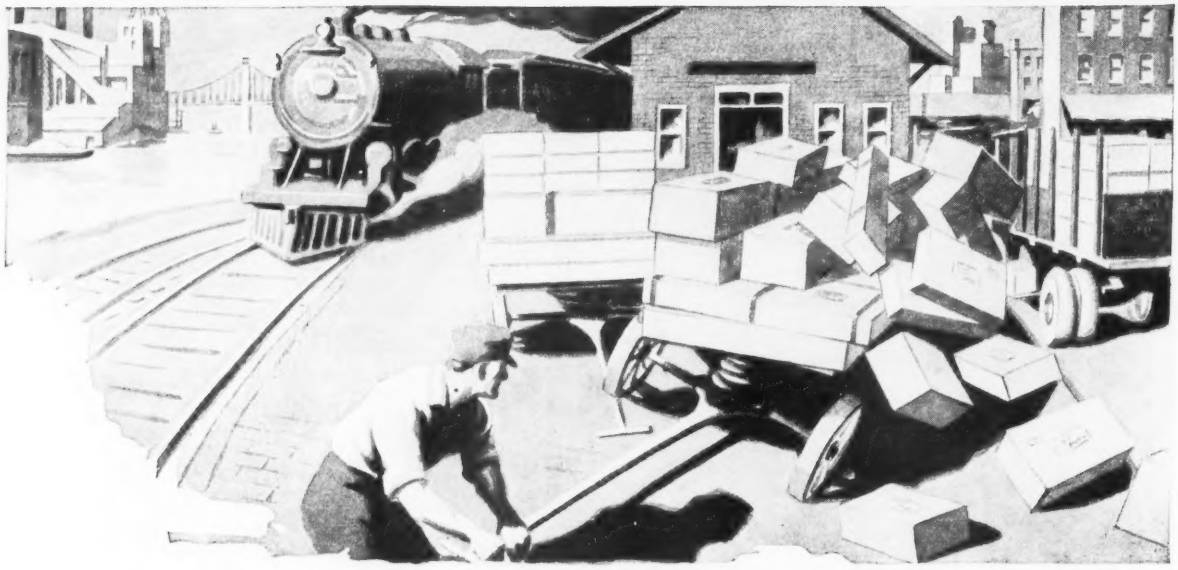
Modern Design... and the New Ensemble Idea

The ensemble idea is the smart thing today. Proprietors and manufacturers of perfumes and cosmetics recognize this trend and dress up their products accordingly in distinctive bottles of related design.

The Owens-Illinois Department of Design has created distinguished modern bottles in line with the ensemble idea. These ensembled bottles have a two-fold efficiency in increasing your sales: Their individual beauty, especially designed to appeal to the feminine taste, greatly heightens the attractiveness of your product; they frequently cause a sale of three or four things to be made, where just one of your products might have been sold before.

The Owens-Illinois Department of Design will create for you distinctive bottles to fit your individual needs. Write for further information. Owens-Illinois Glass Company, Toledo, Ohio.

OWENS-ILLINOIS
BOTTLES



Quality Containers Neutralize Abuse

Rough usage during transportation, of which the above illustration is suggestive, is something that you as a shipper must foresee and provide against when you buy your fibreboard shipping boxes. You must buy boxes that have the strength, the backbone, the resistance and the aggressiveness which enable them to deliver your goods, intact, at destination—as your customer would want them delivered. You cannot afford to court trouble with a temperamental customer by shipping in poor quality boxes that do not stand up under abuse.

Reduce your shipping costs by using better shipping boxes.

If you use corrugated fibreboard boxes, our high cushion corrugations will be found effective in neutralizing transportation abuses because they run 36 to the foot with 3-16 of an inch between the heavy liners, giving a board caliper of practically ¼ inch over all — an unusually strong, tough board, which meets every railroad requirement.

These high corrugations have become extremely popular wherever our corrugated products are used in hundreds of our biggest industries because they are always dependable in protecting shipments, incidentally reducing troubles with carriers and customers, and demonstrating their lower final cost.

On a par with our corrugated quality, our solid fibre products are extensively used and in demand by a large number of industrial fields.

Give our fibreboard containers a fair, square trial. You will find that they are always dependable, high quality boxes, lowest in cost in the long run, that stand up strong and aggressive in the defense of your goods under punishing conditions in transit. When you write, refer to Dept. 7 for quick service.

CONTAINER CORPORATION OF AMERICA

Mid-West Box Company Sefton Container Corporation

Seven Mills • Fifteen Factories
Capacity • 1300 Tons Per Day

General Offices **• Conway Bldg.**
111 W. Washington St., CHICAGO

THE Coty MANICURE TRAY,

one of the most remarkable of modern packages, is made of

DUREZ—AND OF DUREZ ONLY!

FEW merchandising ideas are as inherently sound as the one recently developed by Coty, with the practical assistance of Mr. B. F. Conner, of the Colt Patent Fire Arms Manufacturing Company. Nine articles, including cuticle remover, nail white and cuticle cream, liquid polish and liquid solvent, nail brush, orange stick, emery sticks and a steel file, are all tastefully and compactly arranged in a beautiful deep-walnut tray, made of Durez. No other material was used.

A permanent accessory

The chief feature of this package is that profits come both now and later! The tray sells all nine articles at once. And it brings continual orders for refills! The tray itself is so attractive that women use it as a permanent, charming accessory for their dressing tables, and purchase new supplies of the contents as they need them.

Each compartment in the tray is carefully, accurately molded into the shape of the fitting. Through a clever but simple device, each bottle can stand upright in its own compartment, avoiding a cluttered dressing table. . . . The compartments, the upright feature, the shaping of the edges, the Coty name and address were all molded of Durez, in one operation—without tooling or polishing! You can appreciate the saving in machining expense.

Scores of leading manufacturers are turning to Durez

Coty is only one of the foremost manufacturers in the pharmaceutical and perfumery fields who use Durez for display sets, vanity cases, and boxes, for caps on collapsible tubes, bottles and jars of all descriptions. The list includes such famous names as Squibb, Parke-Davis, Orphos, Astringosol, Barbasol, Zonite, Johnson & Johnson, Dr. West, Iodent, Pinaud, Dorothy Gray, Listerine, Palmolive, Nelson-Baker, and many others.

Closures and containers made of Durez are fully in keeping with advanced ideas of packaging. Durez comes in many attractive colors, capable of infinite variation. . . . The closures are easily gripped. Because threads are molded, not cut, they screw down tightly, and release instantly. Leakage is prevented. Hard, strong, tough, Durez closures are not affected by acids, by moisture, or other destructive agents, inside or outside the tube. They do not discolor the contents of the containing vessel, and they stay clean.

Let us tell you more about this amazing material

If you are interested in containers as attractive as the Coty tray . . . in closures and caps that will beautify your package . . . that will wear better and last longer . . . that are uniform in size, in detail, in color, whether you make one or a million . . . let us tell you more about Durez.

Our engineering and laboratory staff, a group of men trained in thousands of different applications, will be glad to go into complete details concerning the practicability of making your product of this amazing material. *Write for free illustrated booklet to General Plastics, Inc., 71 E. Walck Road, N. Tonawanda, N. Y. Also New York, Chicago, San Francisco, Los Angeles.*

THE MAKERS OF DUREZ ARE ALSO THE MAKERS OF DUREZ INSULATING VARNISH AND LABEL CEMENT

BUILD GOOD WILL FOR YOUR PRODUCT

with CROWN SCREW CAPS

Millions of bottles of Jo-Cur are used yearly. It is a dressing table favorite for water waving and finger waving. CROWN SCREW CAPS have a small, but an important part in making every user a repeat customer.

MILLIONS of people enjoy a surer measure of safety—derive a definite degree of satisfaction, because of the CROWN SCREW CAP that closes and protects the packages they purchase.

Its perfect sealing prevents deterioration—preserves the original quality of the product. Ease of opening, convenience of reclosing saves time and temper—makes good will.

Millions of people have a friendlier feeling toward a host of glass packaged products as a result of CROWN SCREW CAP efficiency. What about the friendliness and good will of those who buy *your* product?

CROWN SCREW CAPS bring to you not only quality of product but "gauge tested" accuracy. Here also are research facilities of a world famed organization—coupled with willingness to be of assistance in solving your sealing requirements.

Special liners have been developed to meet dozens of special needs.

Write today for samples
and complete information

Crown Cork & Seal Co.

Baltimore • Maryland

Makers of the Crown

(THE FAMOUS CLOSURE FOR WIDE MOUTH GLASS)

Three Vital Factors
in Selecting Your Package

Be sure of three things when you package:—a good container—a good seal—and a good liner.

Remove the liner from a modern closure and a hermetic seal is impossible!

The General Felt Products Company has specialized for many years in the production of good liners. These liners, adapted to your product, are available to you through any reliable cap manufacturer.

General Felt Products Inc.

BUSH TERMINAL - - - BROOKLYN, N.Y.

Closing Packages and Closing Sales

PRODUCTION! . . . *greater* production!! . . . and, *still greater* production!!!

To prepare and package a product in the shortest possible time at the lowest possible cost is the ambition of every progressive manufacturer.

But what profit the manufacturer who saves minutes and pennies in *closing packages* and then loses dollars and reputation when *closing sales* in the home of the consumer?

For . . . "No sale is completely closed until the package is opened, the product used and the consumer satisfied." It is easy enough to dismiss this thought as a copy book aphorism. Yet there is enough truth in it to warrant serious consideration.

To secure speed and economy in production is indeed a worthy ambition. But, not when quality of product is impaired. And, not when convenience of package is sacrificed. The consumer *must be satisfied* if he, or she, is to come back and ask for another package—*of the same product.*

THE PHOENIX CAPITOL CAP

PHOENIX-HERMETIC COMPANY

Metal Caps for Glass Packages

CHICAGO NEW YORK

Offices: New York, Philadelphia, Boston, Rochester, Chicago, San Francisco, Los Angeles, Cleveland, Cincinnati, St. Louis

Plants: 2444 W. 16th St., Chicago, Ill.; 14th Ave. and 18th St., Brooklyn

PHOENIX *Metal Caps*

Are the Tubes Worthy of Your Product?

Does their appearance bespeak the "quality idea" your advertising strives so hard to convey?

Is the decorating clean-cut, sharp and in perfect register, calculated to build sales and create prestige?

Have they that durability which permits the consumer to use *all* the contents without waste?

Have the "minor details" such as perfect threading of cap, and tube been given careful attention?

In other words, are they the kind of tubes you'd make if you were making the tubes for your product?

If there is the least doubt in your mind about the tubes you are now using—if you are interested in collapsible tube quality—we'll be glad to supply samples and prices. ***Just address our nearest office:***

Two Big Plants to Provide Better Service

Our New London plant provides service not only to the East but also by water to the Pacific Coast territory while our Chicago plant makes unusual service possible in the Central and Western areas.

New England Collapsible Tube Co.

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Drug Markets

Vol. XXVII JULY 1930 No. 1

Fair For Both

We congratulate the retiring president of the American Medical Association upon his masterly address decrying the evils that would result were the attempt to place the medical profession under paternalistic control successful. For in his scholarly essay, Dr. Morgan has placed his finger upon the one trend in government that is causing many in professions and industries to wonder if there is any future left for creative genius. Certainly no nation engaging in paternalistic control of the medical profession can go far in properly promoting the health of its citizens.

Now that physicians have had brought home to them the ill effects of the paternalism that is threatening them, they might take a slightly different view of those industries toward which they themselves have adopted a paternalistic attitude. For if the actions of the A. M. A. with respect to the drug manufacturing industry means anything they mean that the physicians are of the firm belief that manufacturers should make only those products that everyone else makes so that competition will allow the public to purchase at practically no profit to the supplier.

In exactly the same manner as doling out of physicians services by the government would kill the initiative of practically the entire profession, the actions of the A. M. A. tend strongly to kill the initiative of manufacturers to create something new and better. If extensive research facilities for increasing the effectiveness of the drugs with which the physicians work cannot be paid for, then the physicians will have to do without new drugs to the end that the health of the nation and the effectiveness of the physicians will suffer.

The aid of the medical profession in marketing a new remedy is most effective and valuable. Real co-operation on the part of the profession can go so far as to displace in the minds of both the profession and the public an old established remedy with a new one of less effectiveness—witness Viosterol. There are other striking examples. But dispite the aid that relatively few manufacturers derive from the A. M. A., a continuance of such conditions only serves to dig the drug manufacturing industry deeper into a hole from which eventually it will be unable to lift itself. While the subject of paternalism is fresh in the minds of the A. M. A. is the time to arrive at a better understanding with the association.

A Congressional Pharmacopoeia? The recommendation made by Charles Wesley Dunn that the Pharmacopoeia be compiled under government supervision to correct what he terms the unconstitutionality of the Food and Drug Act has been further defended and explained by Mr. Dunn. We are quite willing to concede to Mr. Dunn the point of uncontitustionality, but we are unwilling to accept his method of correcting the condition. Even the thought that the Pharmacopoeia be written not by the Department of Agriculture, but "by a commission authorized by Congress, appointed by the President, and including in its membership representatives of the directly interested government departments and agencies, representatives of the medical, pharmaceutical and chemical professions, and representatives of the public at large, in due balance", does not intrigue us.

We have for fifteen years or more had a tariff commission appointed by the President. This commission has done practically nothing in the way of taking the tariff out of politics. Selfish interests lobby openly to have included in this tariff bill all sorts of provisions that are not in the public interest. And in the main, those who fight hardest and pay the most get what they want.

The question before the drug trade in this case is do we want the mild type of politics that is played in the Pharmacopoeia Convention, and where scientific glory is paramount, or do we want a general congressional revision of the Pharmacopoeia fashioned after the unscientific and unbalanced manner in which we revise our tariff bills ?

• • •

The Ten Cent Package Responses to our article on the marketing of the ten-cent packages of nationally advertised goods convinces us fully that those who have given the matter sufficient clear thought are convinced that the trend will be detrimental not only to the manufacturers, but also to the wholesalers and retailers of the trade. The president of a leading drug manufacturing concern expresses the thought that the campaign to induce the trade to take up the ten-cent package is "the most foolish thing I have ever seen advocated—and I have seen something of that."

We shall continue to give the opinions and experiences of manufacturers as they come to our attention. We are quite convinced that our survey reported in our March 1929 issue arrived at the proper conclusions.

Fatal Idealism Again in Nebraska, manufacturers see an illuminating example of the fundamental weakness and danger of increasing government regulatory powers. The administration of the Nebraska's Slack-Filled Bill is the case in point.

The protest of industry can never be leveled against the ideals which these restrictive measures seek to attain. But protest can be, and is with growing volume, registered against human interpretation of these ideals as expressed in the prohibitory measures of state and federal governments.

Utopia and the perfect state have been dreams of the philosophers from Plato down through the ages. Successful governments have wisely left these dreams to the philosophers and have dealt with only those restrictive measures that sought to correct widely recognized social evils, or those that fell within the administrative capacity of political organization.

No one can deny that the moral consciecen both of people and of industry, have shown a progressive refinement with the growth of industry and of civilization. Leadership, stimulated perhaps by government calling forth this moral consciousness of industry to correct such situations, is a thing that we have not yet reached in our progress.

In the meantime our trade associations find thrust upon them the unpleasant but imperative duty of fighting bitterly measures which in principle they must endorse.

• • •

A Drug Trade Survey The fact that the Department of Commerce has agreed to conduct a drug trade survey in St. Louis cannot be over-estimated in its importance to the manufacturers of the trade. In fact a leading executive of the drug manufacturing industry is Chairman of the Drug Store Survey Committee which has contacted the department in an attempt to have the survey conducted.

The survey will not get under way until next Fall and a year will elapse before it is completed. But the manufacturers will then have in their possession material that they could not obtain at anything like the price they are paying, if in fact they could obtain it at all.

The Department of Commerce obtains its results and presents them in a cold matter of fact way. They can make recommendations as to the use of the information but the trade must, in very large measure, use its own judgment in interpreting the results.

Mr. Ambruster Strikes

We do not feel the least resentment against Mr. Ambruster for charging before the Senate Committee that we received pay for publishing in our June issue an editorial concerning him, and which he describes as "abusive and erroneous". The utter baselessness of such a charge only serves to indicate the type of supposition upon which his entire fight has been waged.

Certainly if Mr. Ambruster will recall the days when the ergot market had quieted, but during which he continued to make new charges against manufacturers and officials of the government, the A. M. A. and other associations, he will recall the great effort that DRUG MARKETS made to find if his charges called for condemnation of the drug manufacturing industry.

For a time Mr. Ambruster acted shrewdly in not antagonizing the publications of the trade. For only by keeping on friendly terms with the publications, could he hope to split the trade itself, and only by splitting the trade itself could he hope to land anywhere in the fight.

Mr. Ambruster's attack upon every one and everything must be regarded as the last stand of a man who senses defeat. He strikes at everyone that comes before his eyes hoping to besmirch their reputations and thereby discredit their damaging statements. Our only regret is that Mr. Ambruster did not see fit to attack us about two years ago, for if we could only have appreciated then, as we do now, the premises upon which his charges were made we could have used a lot of time at something else.

• • •

Closures for Glass

We start to publish in this issue an extraordinary series of articles on the subject of Closures for Glass. In this series—covering a most exhaustive investigation of the subject—all known methods of sealing bottles and jars will be discussed. The first article describes the various types of finishes in which bottles are made to adapt them to the different styles of closures.

As must be the case with any such series of articles, the material given will be confined strictly to known facts without in any way favoring one type of closure over another. The user of glass containers will still have to decide for himself what closure he will use although the series might possibly give him just the information that he is seeking to aid him to arrive at a definite conclusion.

The Raw Material Deflation

Raw materials for the manufacture of drug trade products continue to move to lower levels in large number. The present period is undoubtedly one of general deflation of commodity values and the drug trade is no exception. Particularly does this deflation affect the natural raw materials production of many of which is determined by the planting of crops a year ago and by the course of Nature. In some crude drugs, however, the plants grow wild and are only gathered in accordance with the anticipated market.

In the case of those natural raw materials that are cultivated, the absence of speculators from the markets is probably the greatest single factor in bringing about the present low prices. If manufacturers are unwilling to take chances and buy their supplies in the primary markets at the time that they are plentiful and no one wants them, then they must expect to pay the speculators for taking the risk. Periods of deflation bring lower prices on raw materials but they also bring lower prices on finished articles together with less sales. Doubtless manufacturers would rather pay the higher prices.

Ten Years Ago

From our pages July, 1920

Drug and chemical firms are now ready to resume trading with Russia. The State Department has removed all restrictions against trade with this country with the exception of the ban against the shipment of war material.

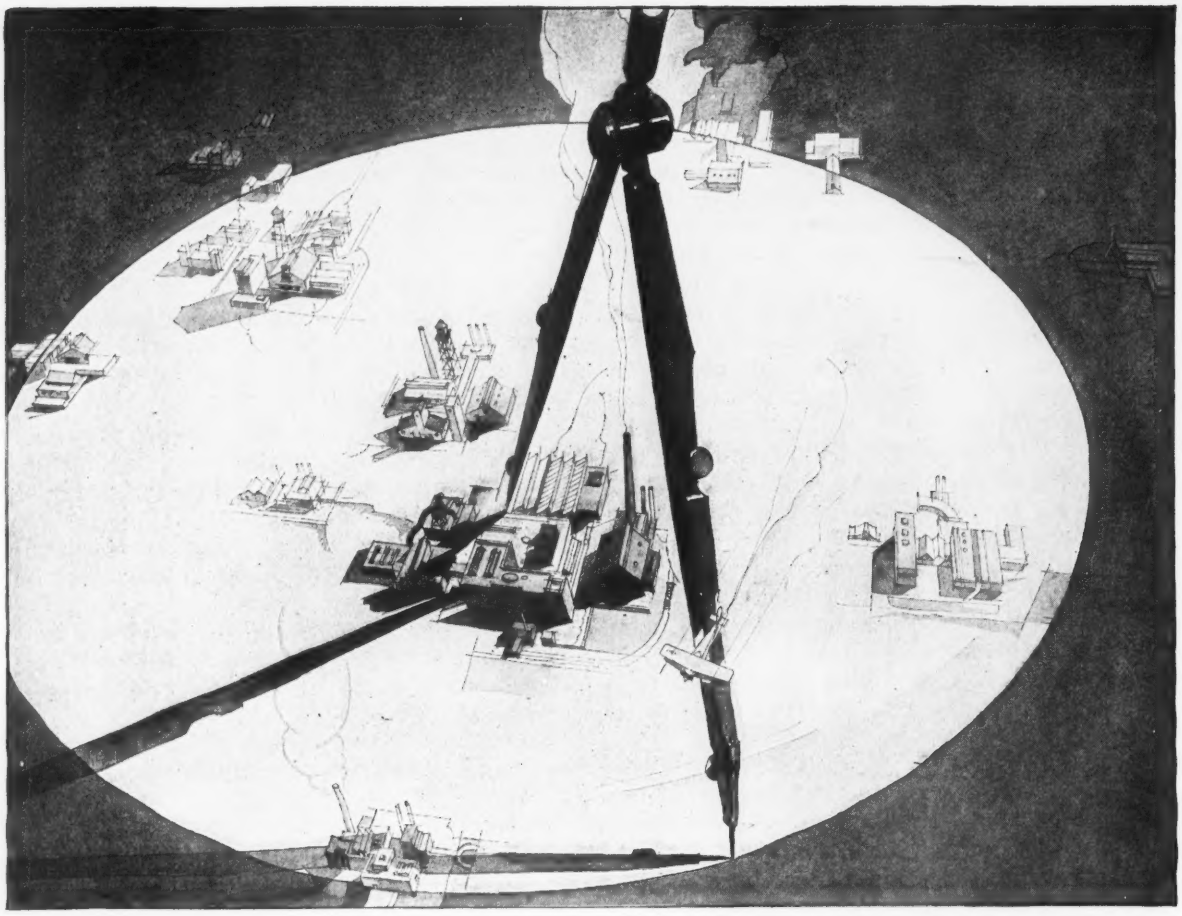
Saccharin made by the Monsanto Chemical Works, St. Louis, but part of which did not bear the Monsanto label, was the subject of a suit in the King's Bench Division, London, England, recently. Mr. Justice Rowlatt heard an action Scaliaris vs. Ofverberg and Co., in which the plaintiff claimed damages in respect of a contract relating to the delivery of a quantity of saccharin.

W. C. Hayhurst, for many years manager of the St. Louis branch of Parke, Davis & Co., has been transferred to the Kansas City branch. This is in the line of promotion as the Kansas City branch is larger than the one in St. Louis.

In a recent market report sent out to the trade, Charles L. Huisking, Inc., New York drug brokers, characterized the present dull chemical and drug markets as "in the midst of a general reaction which is very nearly akin to a slump."

The Flavoring Extract Manufacturers' Association held their eleventh annual convention in Springfield, Mass. July 12. The main discussion centered on the use of alcohol in flavoring extracts under the prohibition regulations.

McKesson & Robbins, Inc., have acquired the building at 152-154 William st., adjacent to their main offices, 91 to 97 Fulton st., in order to have adequate space for the Spanish Export Department which is showing a remarkable growth.



Reach out beyond the circle

HOW would you like to add to your staff a group of trained and expert men? Men to indicate greater market possibilities for your product. To help develop new uses for it, or their presentation. To study its packages and perhaps make suggestions to lengthen its life, or extend its field. Perhaps to work out ideas that will cut your selling costs.

Too expensive? Perhaps—were you to put such men on your payroll. But the beauty of it is there's not one penny of cost. The men we speak of are Canco men—who believe that the way to build our business is to help each customer build his own. When you buy containers from the American Can Company, the special knowledge these men have, their practical suggestions, their ideas, their counsel, their help are yours to profit by.

Maybe there are possibilities in your product that haven't yet been revealed. Maybe the problems you face can be lessened, or even solved. Maybe a different container will open up new avenues for sales. There may be a number of ways in which thoughtful, intelligent, specialized service can be valuable to you.

That's what we mean when we say, "reach out beyond the circle". Canco is eager to demonstrate how much an unusual can company can give you—to show you how really helpful we have tried to make our activities to your business and its future. If you are not content with getting less than you can—reach out beyond the circle.

AMERICAN CAN COMPANY

CANCO

Walter G. Campbell answering the questions of Senators Copeland and Hatfield during the Ergot investigation.

The Charges Answered

By H. C. Hallam

CHARGES made during the past two or three years against the United States Department of Agriculture, alleging laxity and conspiracy in connection with the administration of the food and drug law were exploded with a loud bang, at hearings conducted by the Senate committee on Agriculture and Forestry last month. The charges made by Howard W. Ambruster and Dr. H. H. Rusby and others were completely answered, disproved and refuted, in the opinion of members of the committee and other close observers, by witnesses appearing before the committee, including Walter G. Campbell, Director of Regulatory Work, Department of Agriculture, and who heads the Food and Drug Administration of that department, and other witnesses representing the Department, the drug trade, the medical profession and other lines of activity.

The hearing lasted for practically a month, during which Mr. Ambruster and his cohorts were allowed fullest latitude in the presentation of their case, except that the committee declined to subpoena any witnesses on either side of the controversy—Mr. Ambruster having asked that a number of witnesses be subpoenaed to testify in support of his case. He asked a continuance of the investigation until next winter, but this was not granted.

At the conclusion of the hearings the committee adjourned until next December, with doubt expressed by members that it would even make a report upon the investigation. This expression appeared to be based upon the fact that the whole proceedings were informal. The committee had nothing officially before it, except requests from Mr. Ambruster and from Mr. Campbell that it make an investigation of the charges and hear witnesses testify concerning them. The Senate itself took no action on the matter. There was no resolution directing the committee to investigate. No report on the investigation has been requested by the Senate. The hearings were held in pursuance of the general authority of the committee to consider matters under its jurisdiction, which includes the administration of the food and drug law. The committee extended the courtesy of the facilities of its rooms and staff to those desiring the hearing.

Certainly, there will be no report upon the investigation, by the committees, before next winter. Depart-

ment officials and trade representatives would like to have a report from the committee, eventually if not now, feeling confident that such a report could not fail completely to vindicate the department and sustain the claims of the trade that the drug products of American laboratories generally are pure and of high grade. However, members of the senatorial committee are extremely busy men and so far they have not seen their way clear to promising a report. They take the view, it is understood, that none of the charges were proven; that they were all disproven, in fact; therefore, why take the time and trouble to prepare a report saying so.

"I believe we have heard the last of this investigation," said Senator Royal Copeland of New York, who, on account of his medical training, sat with the committee, at its request, during the hearings. Certain officials, however, hope there will be a report, in the hope that it would relieve the Department of unjust attacks in the future.

Inquiry is Not the End

That the last of the charges against the Department has been heard is not believed in the Department and in drug trade circles. If the Agricultural Committee should decide eventually to make a report against the charges, then Senator Wheeler of Montana is expected to make a minority report from the committee in which he will attempt to sustain the charges. In any event, Senator Wheeler is expected to be heard from again on the subject, if not in the form of a report, then in speeches, or in resolutions in the Senate dealing with the matter. That Mr. Ambruster will be silenced is not believed by anybody concerned. He appears to have dedicated his life to fighting the Food and Drug Administration.

The hearings are expected by Department and trade people to have the result eventually of bearing fruit in the form of increased appropriations and increased personnel for the Food and Drug Administration, both of which they need greatly if the manifold problems with which the Administration, the drug trade, the medical profession, and the public must concern themselves are to be dealt with the fullest prospect of success. Besides thousands of food products and insecticides, fungicides and caustic poisons, the Administration is supposed to enforce the law with reference to 125,000 drug products which are imported into the United States or enter interstate commerce. To do this job the Administration has a force of only sixty odd expert inspectors, which is admittedly utterly inadequate. Nevertheless, testimony indicated that the law is being enforced better than ever before. Senator Copeland and members of the committee expressed the belief during the hearings that better provision should be made by Congress for the Food and Drug Administration.

Senator Copeland sat with the committee throughout the hearings. As a physician and as health officer of New York City for a number of years, he was in a better position than members of the Committee on Agriculture, except Senator Hatfield of West Virginia, who is also a physician, to appreciate the points involved in the controversy between Mr. Ambruster and the Department of Agriculture. Dr. Copeland participated actively in the examination of witnesses throughout the hearing, acting practically as "counsel for the defense."

On the other hand, Senator Wheeler, who is a member of the Committee on Agriculture, took up the job, virtually, of "prosecuting attorney." The recent story in Plain Talk about alleged poisonous drugs, which was attributed to Senator Wheeler, constituted the basis of much of the hearing. It was the text of many of the senator's questions of witnesses before the committee and it was used largely by "defense" witnesses, particularly Walter G. Campbell, as the basis of his reply to charges against the Department. Senator Wheeler had to leave the city before the hearings were concluded, but not before he had obtained an order from the committee that a number of records and files of the Food and Drug Administration covering certain products dealt with in the hearings should be turned over to the committee. He has a position to sustain and believes he has made good in part at least on his charges.

Mr. Campbell Star of Hearing

Mr. Campbell was the bright particular star of the hearing. He took the floor, after the conclusion of the presentation of the case of Ambruster et al, and held it for several days. On his feet for hours at a time daily, Mr. Campbell led the defense with brilliant counter-attacks on the enemies of the Department. His was pronounced by committee members and others present as one of the finest exhibitions of straight thinking and clear speaking that they had ever witnessed. Point by point, Mr. Campbell took up the charges made against the Department. He personally refuted many of them, and called witnesses to refute others.

The drug manufacturing industry came out of the investigation with colors flying. It was shown, generally, that the quality of crude drugs imported is high; that the finished products when marketed are of as high standard as modern manufacturing methods permit, although admittedly there may be some deterioration of such products if they are kept too long in trade channels before they reach the consumer. Personal spite appeared to have inspired charges against the products of one manufacturer.

The charges against the Department may be grouped under two heads: first, laxity in enforcing the law, and second, alleged conspiracy to keep good ergot off the market and cause the financial ruin of Mr. Ambruster. The first of these heads included alleged laxity as regards ergot, ether, digitalis and

Senator Burton K. Wheeler who placed his name over the article in June "Plain Talk", and who played the role of "prosecuting attorney" during the hearing.

Senator C. F. McNary, chairman of the Senate Committee on Agriculture and Forestry, before which committee the hearing was conducted.

extract of ginger, or "ginger jake," chiefly. The testimony introduced on behalf of the Department, the medical profession and the drug industry, appeared to be conclusive that no such laxity as was charged actually existed.

The conspiracy charge simmered down to testimony in behalf of the Ambruster side that J. C. Clark of the Food and Drug Administration had stated to Dr. H. H. Rusby several years ago that the department had succeeded in closing the market to Spanish ergot. Mr. Clark, who is now chief of the Central District, Food and Drug Administration, with headquarters at Chicago, denied most specifically that he had ever made such a statement. Witnesses for the prosecution differed as to when this alleged statement was made. Dr. Rusby said the incident occurred at the beginning of a talk he had with Clark. Dr. Fanchon Hart stated that it occurred later on in that talk, inasmuch as she heard the statement made and she was not present at the beginning of the talk. Mr. Schwarz, now representing the Department of Commerce in the heart of Africa, but who was said by witnesses for the prosecution to have also been present during that talk, sent a cablegram, which was read to the committee, denying that any such statement had been made. It appeared in the testimony that perhaps the first time a statement was published to the effect that Spanish ergot had been shut out of the market was about two months after the alleged Clark-Rusby conference took place, when the statement was attributed to a trade representative, whereas Dr. Rusby two years after the alleged statement was made attempted to pin it on Clark.

The investigation did not ramify as it was believed in advance it might do. For example, the subject of multiple seizures was not touched upon in the testimony, as some advance observers believed it might be. Nor were instances of alleged excessive zeal on the part of the Food and Drug Administration in dealing with labels and questions of misbranding. The answer is obvious enough. The investigation was instigated by those charging lax enforcement of the law, and naturally the fellow charging lax enforcement is not interested in charges indicating that the law may be enforced too strictly. Also in the charges of Ambruster et al and the investigation based upon them, the drug manufacturers and some other branches of the trade found their interests identical with those of the Department. There was very good co-operation between the department and the trade, in connection with the hearings, as there had also been considerable such co-operation theretofore.

Taking up the ergot situation first, the testimony showed that crude ergot imported into the United States under the regime of Dr. Wiley and Dr. Alsberg, approximately 1907 to 1916, was admittedly not of U. S. P. quality. Dr. Rusby was at that time attached to the Department and charged with the duty of examining such imports, and Mr. Campbell produced dozens of reports from Dr. Rusby upon examinations of samples of imported ergot showing that they did not meet U. S. P. requirements. Yet Rusby charged his successors with having violated the law by admitting sub-standard ergot.

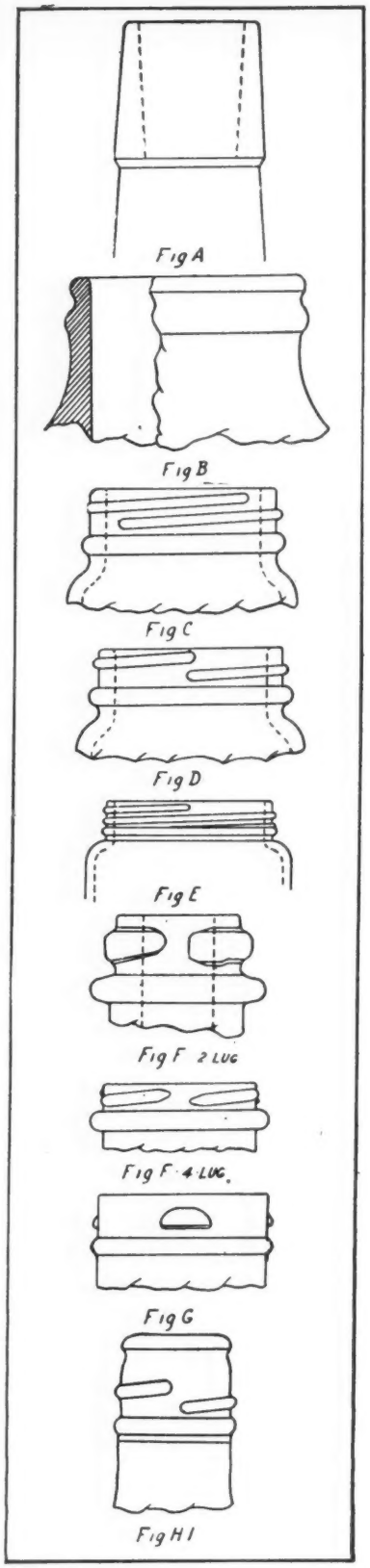
Rusby claimed that the U. S. P. requirements at the time he was working for the department were less exacting, as to the physical characteristics of the crude ergot, than were U. S. P. requirements applying to importations within the past few years. However, Dr. E. Fullerton Cook, chairman of the Revision Committee of the Pharmacopoeia, showed the committee that the physical requirements were practically the same.

It was shown that Rusby, while with the Department, permitted the winnowing and recleaning of ergot, and recommended the entry of ergot after such treatment, even though it did not then meet the U. S. P. standard. He claimed that he was ordered by his superiors in the department to do that. Dr. George W. Hoover, former chief of Drug Control, denied that there had ever been any effort in the department to coerce subordinates into making any recommendation. Such action, he pointed out, would unfit enforcement officers for performing their proper work.

Mr. Campbell read into the record of the hearing various documents to show business relationships between certain parties supporting the charges against the department re ergot. It was shown that Dr. Rusby

(Continued on page 67)

Closures for Glass—



Stopper Finish

Crown Finish

Continuous Thread Shallow

Continuous Thread Deep

Roll on Finish

2 Lug Amerseal

4 Lug Finish

4 Lobe Duplex

Hermetic Seal with Loose Cap

DEVELOPMENTS within this century in the manufacturing of glass containers and the fabrication of closures have made possible the tremendous advance of glass as a container for various products of commerce. Articles in numerous journals have recorded the progress in the field of glass technology. Even the radio has carried the story of glass as a modern material proving suitable for numerous applications of exacting requirements. Closures, however, have received far less attention although the advances in the manufacturing of metal closures have been no less noteworthy. In fact, the position now attained by the glass container is due very largely to the ability of the modern closure to meet all the requirements placed upon it.

No one can deny that for attractive appearance, simplicity of operation both in application and removal, and serviceability, the present day closure matches the glass jar in every respect. Together they afford the user a thoroughly modern reliable container. The purpose of this article therefore is primarily to present the results of the cap manufacturer's efforts in developing his closure. There will be no attempt to give a history, but rather to offer a complete discussion of those closures now available for the packer.

In presenting this material the authors realize that they are venturing into a highly competitive field with the risk of appearing partisan. On the contrary, it is their earnest desire to be absolutely impartial and to deal justly with every closure. Naturally, in an exposition of this sort certain adjectives and superlatives must be deleted regardless of any convictions. No doubt our efforts will be a failure as far as those loyal salesmen or packers, whose experience apparently justifies their beliefs, are concerned. Still with due apologies and for the express purpose of presenting the modern closure as the partner of the modern glass jar, the attempt is made.

A glass container considered as a package consists of three equally important units—the metal closure, the liner, and the glass. While the closure and liner seem comparatively simple things there are numerous problems incident to their production which demand the utmost diligence and technical study. In the earlier days the cap manufacturer was compelled to employ whatever material appeared best suited to his need, but now the metal, lacquers, liner materials,

—the Finish

are prepared exclusively for his use and to his specifications.

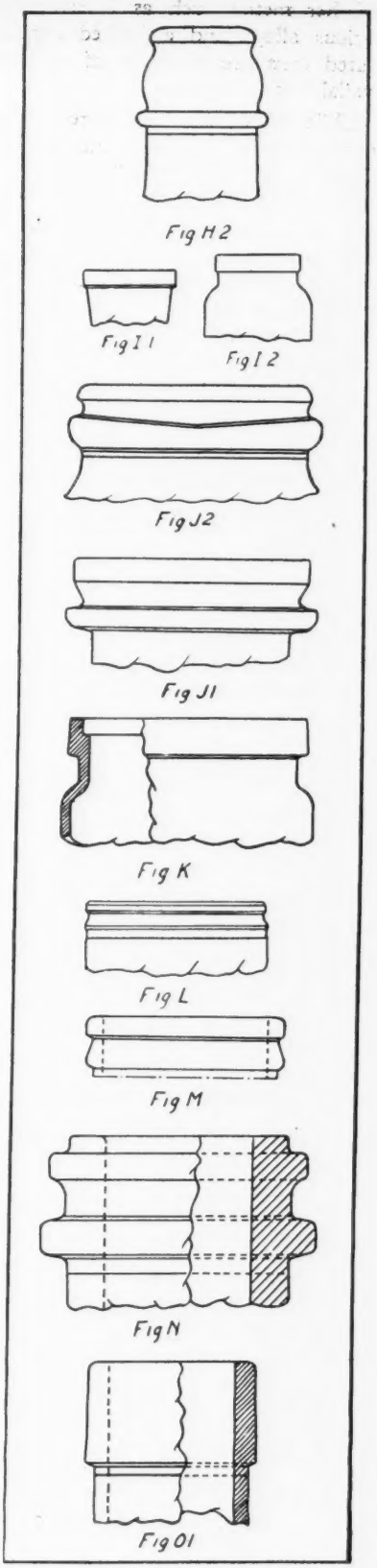
When the requirements set before the cap manufacturer are considered, his task does not appear simple. The first consideration is, of course, a hermetic closure. There are some applications where a strictly hermetic closure is not required but they represent exceptions. A hermetic seal is far from the whole story, as those familiar with this field realize. Appearance, is a major consideration. The user demands a pleasing contour and a lustrous finish and frequently brilliant colors of extreme durability. Strength sufficient to resist the numerous operations of sealing and processing is an important feature. To assure proper fit they must be uniform and built to exact dimensions. The packer imposes certain demands as to method of application and the consumer expects to readily and easily accomplish its removal. One can hardly comprehend the diversity of demands which confront the closure manufacturer.

In the manufacturing operations many problems have been encountered. Not the least of these was in connection with the raw metals from which the closures are formed. From experience in the working properties of tin plate rigid specifications have been formulated to assure proper metal. Automatic machines have been designed to perform the various drawing and stamping operations without seriously weakening the metal even though sharp bending of the metal is necessary.

Several metals are employed. Tin plate which is a steel, rolled very thin and given a coating of tin is the most common. Tin serves as a protective coating for the steel against corrosion and rust. A bright metallic appearance also results from the tin coating. Because of its ductility, strength and relatively low cost it is admirably suited for cap construction.

Aluminum is another metal which because of the ease of tearing finds rather extensive application in the closure field. Other properties which make it suitable for closures are: greater resistance to corrosion, ductility, lightness, and resistance to many products.

A third metal employed for closures is zinc. This also is a softer metal than tin plate with the same non-rusting property as aluminum. This particular metal is familiar to many in the form of the Mason cap.



Other metals such as brass, monel metal, and various alloys find a limited application. Nickel plated caps are examples of another metal finish available for the user.

While there may be closures constructed of the raw material without additional finish, generally some added protective coating is applied upon which the resistance of the completed closure depends. Usually some form of lacquer is applied to the raw metal after cleaning and is baked on at high temperature. These lacquers not only afford additional protection against moisture and the contents of the container, but also give the metal an attractive appearance. The compounding of these lacquers and their application is another accomplishment of the closure manufacturers and those concerns who supply them with raw materials. Not the least important item is the improvement in the ovens which bake the lacquered sheets producing an even finish.

As previously pointed out the glass package consists of three elements and probably the most important element is the liner. It would be a difficult task indeed to secure a tight seal between glass and metal without the liner. In fact, remove the liner from the modern closure and a hermetic seal is impossible. In effect, the closure only serves to maintain the liner in contact with the glass finish and as a covering for the container. Because of the importance of the liners a special section of this article will be devoted exclusively to their consideration.

While it may seem an odd concept for many, in our discussion of closures we will assume their function to be principally a means of securing the liner. This will permit consideration of the mechanical features, method of application and removal; holding in abeyance the question of liners until all the various types of closures have received attention.

In order to secure the closures to the glass jar some form of thread, ring, lobe, or surface is required. This is known as the finish. Since the finish on the container is an important part of the complete seal, an examination of the various finishes will assist in the general appreciation of the subject of closures.

The finish is formed independent of the size or shape of the container. Theoretically, it would be possible to obtain any finish on any glass container. Practically, however, this is not true as certain combinations would hardly be suitable for commercial use. In some cases the mechanical features of the closure or the lack of suitability of the closure for the product ordinarily packed in a particular container have limited the combinations manufactured.

In presenting the various finishes the purpose is to acquaint the reader with the general appearance without discussing the operation of the closure employed with the finish. While the stopper as a closure is familiar to everyone, it is included and naturally heads the list as the oldest form of seal. In fact, when Nicholas Appert reported in 1810 on his invention of preserving foods in glass containers by heat he employed the cork stopper which he constructed of laminated cork. Sketch A shows a bottle with a stopper finish. The sealing surface is naturally the inner surface of the neck opening.

Perhaps the second type of closure familiar to most everyone is the crown. Here in sketch B is a simple finish with a top sealing surface against which the liner is secured.

Another type of closure of extensive application and one which has witnessed several modifications from the original design is that employing the principal of the screw thread. Several closures may be included under this heading, but the finish for each is quite different in appearance. The sealing surface is indicated in the various sketches.

Two common finishes are the deep and shallow (C T) continuous thread. These are illustrated in sketches C and D. A continuous thread just below the top engages the closure.

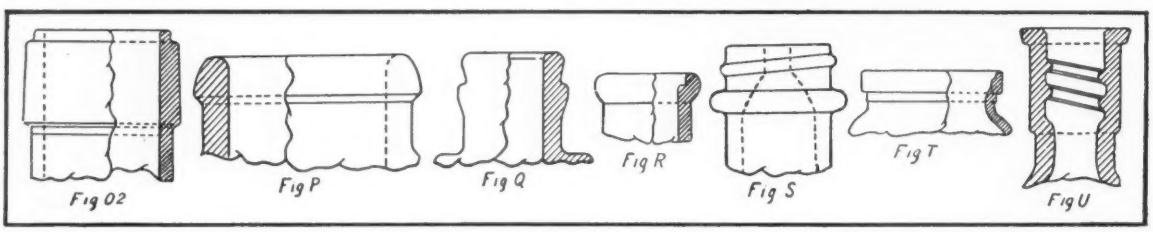
Figure E represents the R O (roll on) finish—a slight modification of the continuous thread necessitated by the unique method of securing the R O seal.

A variation of this closure is the divided thread designed to reduce the amount of turning action required to bring the cap against the seat. In sketch F is shown the 4-lug reseal finish and a 2-lug Amerseal; also made in two and six lug depending upon the size of the container.

A different finish scarcely resembling the others but for a closure operating on the divided screw thread principle is the Duplex seal finish. A four lobe finish is illustrated in sketch G.

For those containers on which a combination of hermetic seal and loose fitting overall cap is employed finishes such as shown in sketch H are available. Here is a crown finish on the top with a special screw of friction finish below. This finish is employed on condiment bottles.

(Continued on page 36)



Modernizing by Means of the Label

By CHARLES G. MULLER

HOW the Maltine Company, by redesigning the label on its quarter-century-old Neoferrum bottle opened the way for its salesmen to tell a modern story and for its advertising to talk in the language and spirit of the day, shows how varied are the benefits that come from keeping packages up to date.

According to Vice President James C. Chilcott, new dress for Neoferrum is partly the outward evidence of a general reorganization aimed to continue the increasing sales which this fine, highly respected old company has enjoyed for years. The new package aims to keep the old product in step with modern merchandising just as the company behind the product is keeping step with modern production.

Because the old bottle and cap—which for more than twenty-five years have identified Neoferrum—were as serviceable and as characteristic as any new container the company might pick, both these were retained when in November of 1928 the old label was discarded.

Feeling that the old container would maintain all good-will built up among physicians, druggists and consumers over years of service, the company completely revamped the bottle label. This it designed to carry out the product's prestige in a way which the old had not been able to do because of its antiquated form and cheap appearance in an era of attractive and costly looking labels. This old label, designed at a time when merchandising theory held that the package should not cost more than the product, had not allowed Neoferrum to suffer as many undistinguished packages have allowed good products to suffer. But the old label had had to compete with labels designed in a later day when modern-minded manufacturers had learned that packages can profitably cost more than the products they hold if they shriek for attention and build up consumer sales.

The Neoferrum label change, therefore, was to give to a proven container fullest sales effectiveness. Enlarging the label to cover front and two sides of the bottle, the company bordered it and placed a distinctive panel on the front section. Then, instead of giving merely miscellaneous information about the product, it printed on the new label a full story of the product's use—so that the druggist called on for

MORE
THAN
• AN IRON
The invaluable efficacy of iron plus Vitamin B and other recuperatives
NEOFERRUM places at the convenience of the physician an especially active iron preparation for rapid blood regeneration. Not only does it correct the impoverished blood condition, but its rich content of Vitamin B improves the impaired appetite, speeds up nutrition and fortifies the weakened organism against infection.
Neoferrum carries iron in the same natural form as it occurs in food—an organic iron, which in combination with manganese and arsenious acid is especially powerful in enriching the blood.
Easily assimilable
Not astringent
Slightly laxative
Does not stain or injure the teeth
Especially palatable
Tends to correct acidosis
Improves appetite
Fortifies against infection
At a large metropolitan hospital, Neoferrum in every case caused a rise in red blood cell count over a period of two months, with improvement maintained a month after discontinuation.
Each fluid ounce (30cc.) contains 1.4 grains of elemental iron, .33 grains of elemental manganese and .0035 grains of arsenious acid in solution with Maltine attenuated with high-grade sherry wine.
NEOFERRUM
THE MALTINE COMPANY
20 Vesey St., New York, N. Y.
Kindly send me a sample bottle of Neoferrum and your pamphlet, Raising the Blood Count.
M. D.

The Modernized package is shown in the above advertisement that is entirely modern in character.

Neoferrum could provide the consumer with intelligent information.

As a result of this new story on the label came an increase in the sales effectiveness of Maltine Company salesmen contacting the trade. Where previously these salesmen in soliciting business and in telling the story of their product had had to hand to the druggist an old-fashioned container utterly out of keeping with their story, now they were able to present to the druggist a container as modern as their

sales story. That this often overlooked benefit of package change proved a concrete benefit in dollars and cents is indicated by the fact that Neoferrum after a year and a half of the new label is reported to be one of the fastest growing items in the company's line—though more than twenty-five years old.

Not only were salesmen enabled by the modernized label to contact their trade more successfully, but the company also was able to dress up its advertising story much more in the modern style than ever before had been possible with the old-fashioned container. Modern type and layout were adopted, to set off modernistic photographs of the new package and to show, through magazine displays, that the old product had taken on new appeal.

Complimentary returns—as well as returns in the form of increased sales—came in from druggists and physicians alike. Instead of finding, as many old companies believe they will find, that physicians lose confidence if any change whatever is made in the appearance of an established product's container, the Maltine Company received from their contacts nothing but compliments. Physicians declared that the new label gave the product an entirely new atmosphere that was most attractive. As Neoferrum, while distributed through drug stores, is given initial start chiefly on the recommendation of the physician to the consumer, this reception on the part of physicians to the new label was very gratifying.

The same complete willingness to accept the new label was evidenced by druggists as well, and also by consumers. Once again proving that modernized dress can be given to the oldest established of products—provided the new dress is in keeping with the product and the market in which the product finds itself.

For, in the case of established products, as in this instance, the new package can be looked upon not so much as a new wrap for the product as it can be considered a new and modern presentation of the reliable old product and the old story to an old market.

Simply, the Maltine Company believes that to Neoferrum the new label has been more a change in sales presentation than in actual design. For the new label has enabled the company to modernize its selling message so that:

(1) The package itself presents the old product to trade and public in modern style;

(2) Salesmen in telling an up-to-date story can give effectiveness to the story by showing the product with its new label;

(3) Magazine advertising of the old product can be dressed and presented in the most up-to-date manner;

(4) The entire appearance of the old company itself is rejuvenated. For the new label, by striking the modern note, shows that the company behind the product is maintaining its leading position in the merchandising field. To prestige of long experience and high standing is added prestige of youthful aggressiveness.

Medicine Show Tactics

Editor, DRUG MARKETS,

HAVING luncheon, several months ago, with a merchandiser of a high class tooth paste, the most natural thing that we would discusss, would be facts and gossip relating to the most successful merchandising of products in his line. Price methods, trick advertising, sampling, and all the pros and cons of active merchandising drives, was gone into. Finally we settled on a discussion of what we might call medicine show selling.

I remember, as a youngster, standing wide-eyed with ears bent forward, listening to the merits of the numerous snake oils and cure-alls, that immediately follow the medicine show proper. They sold merchandise and evidently they were successful. But the fact remains the products were of the medicine show type, and were limited by the value of the field that this type of merchandising would influence.

It might be a far cry from medicine shows to broadcasting, but just as sure as a product reaches its potential buyers by the influence of mediums that will be accepted by only a limited number of buyers, there is grave doubt as to the real value of such methods.

The flavor of a tooth paste can, and does, have a very valuable position in the development of a sales campaign. There are on the market at the present time numerous tooth pastes. We might set up classifications that would embrace all the successes as follows: Acid pastes; drug pastes; soap pastes. If, by means of broadcasting, an extraordinary interest is built up for an acid tooth paste, in addition to promoting the sales of his own product, the broadcaster has helped to make the public tooth paste conscious. But due to the influence of the broadcast, users are tempted to try the broadcast item. Let us agree that these people are morons, to simplify our explanation. If they have been using a paste of flavor similar to that of the broadcast item, the broadcaster will take business away from their class competitors. If, however, there is a distinct difference in flavor—for instance, if an acid paste is broadcast and the listener has been using a drug paste, qualifying drug pastes as Ipana, Forhan's, Phillips and Squibb's—the jump is too great and the interference with the sale of these products is minimized.

Substantiation of this theory is brought out by a recent financial sheet wherein the net profit of one of the leading tooth pastes—in the same class as our most successful present day broadcaster—decreased materially. Peculiarly, however, the sale of at least two of the so-called drug pastes have had the greatest increases of their existence.

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Robert L. Lund (left), vice-president of Lambert Pharmacal Company, St. Louis, is Chairman of the National Drug Store Survey Committee which represents the drug trade interest in the survey.

Dr. Frank M. Surface (right) Assistant Director, Bureau of Foreign and Domestic Commerce will be in charge of the survey.

Coming--

A Drug Trade Survey

HOW much does it cost to fill a prescription ?

What is the profit in the sale of soda fountain drinks or luncheonette sandwiches ?

What is and should be the inventory or stock on hand in a drug store ?

Where is the best location in such a store for the toiletries counter or the drug sundries department ?

Answers to these and similar questions for drug stores of various representative types will be attempted in connection with an intensive survey of retail drug stores in St. Louis, to be conducted by the Department of Commerce. The survey will be made with the complete co-operation of a special joint committee organized by trades interested and on which various branches of the drug trade is represented as well as interests that supply the drug stores of the land with the manifold variety of articles they handle.

The co-operative arrangement will involve the furnishing of necessary directing and supervising personnel by the Division of Domestic Commerce, Bureau of Foreign and Domestic Commerce, of the Department, and the financing of the clerical and other help by the drug and other interests concerned. Details of this financing will be worked out by a newly organized, but permanent, committee on National Drug Store Survey of which the chairman is Robert L. Lund, Vice President of the Lambert Pharmacal Co., St. Louis.

Mr. Lund has been the moving spirit in the work in trade circles in connection with arrangements for the St. Louis drug store survey, according to statements made by Commerce Department officials, and it was commonly reported at the conference held in Washington prior to announcement of the plans for the survey that the Lambert interests will contribute $2,500, more or less, of the total fund required for this work. The total estimated sum needed ranges from $25,000 to $40,000. Trade associations, it was understood ,would contribute toward this fund, but not an overwhelming amount, it was believed, inasmuch as it was generally recognized that as a usual thing the income of a trade association is pretty well budgeted. However, it was said that the National Association of Retail Druggists, would probably contribute, among others. Julius Riemenschneider, chairman of its executive committee, is a member of the drug store survey executive committee. The drug manufacturers, proprietary, pharmaceutical manufacturers, toilet manufacturers, confectioners, bottlers, wholesale druggists, chain store, and various other trade associations in drug and related lines participated in the conference at which the survey was authorized and organized. Probably the bulk of the financial support of the survey will come from individual druggists and other firms directly interested in the welfare of retail drug stores as an outlet for their goods.

In the survey St. Louis will be virtually a laboratory in which the problems of distribution peculiar to the retail drug store will be worked out. The results obtained are expected to be applicable, at least in a general way, to the retail drug trade throughout the country. Considerable good is expected to be derived from this work.

The retail drug survey is one of a series of surveys of retail trades to be conducted by the Department of Commerce. Another was a survey of the retail grocery trade in Louisville. A third was a study of retail paint stores, which resulted in the preparation of a new layout for such stores that was believed to facilitate merchandising. New layouts were also adopted, as well as new methods, by retail grocery stores following the Louisville survey, with the result, according to the Department of Commerce, that additional income has followed in every case, and frequently with reduced expense.

To Start in Fall

The St. Louis drug store survey is expected to begin this fall and will cover at least two and perhaps three different periods throughout the year which are representative of seasonal conditions. The whole job will not be completed for approximately a year. Representative drug stores of various types, chain, down-town, and neighborhood, will be studied. Certain phases of manufacturing and wholesaling will be taken up also. The study will necessarily be much more extensive or at least will involve many more articles than did the Louisville grocery store survey. A grocery store usually handles only one line—groceries. A drug store, on the other hand, handles a large number of different lines. It is practically a department store on a small scale.

Dr. Frank M. Surface, Assistant Director of the Bureau of Foreign and Domestic Commerce, who will have charge of the drug store survey, discussed the matter freely with DRUG MARKETS' representative. Said he:

"This matter has been brewing for some time. Representatives of the drug trade and others interested in retail drug store distribution came to the Department and asked us about six or eight months ago to make the survey. I should say parenthetically, perhaps, that while the Department is interested in serving any American legitimate industry it could not undertake a survey of this type unless requested to do so by national organizations in the industry concerned. Also the Department does not have money enough to carry on such survey work out of its own funds. It was explained, however, that the Department could accept outside help; in fact, that it would be necessary to have assistance, clerical and the like, furnished by the business interests concerned. The Department agreed under such circumstances to furnish the directing personnel and take charge of the study.

"Mr. Lund carried on an extensive correspondence with drug trade associations and people who sell through drug stores, which takes in nearly everybody. Mr. Lund took the entire responsibility, calling the recent meeting of various interests concerned that was held at the Department, to discuss possibilities and determine whether they wanted the survey to be made, and whether the Department was willing to undertake it.

"Resolutions were adopted forming the National Drug Store Survey Committee and a series of subcommittees were appointed, to collect funds, to cooperate with the department in planning and directing the survey, and so on. It is conceivable that this survey committee may continue on after the St. Louis work is done, because the big thing is to get practical results in the use of the material obtained in the survey. There will be almost an unlimited opportunity for results provided the survey does as well as we hope and expect. Some members of the trades committee will help the department on the ground in this survey work in a practical way.

Actual Details Not Planned

"The work to be done has not been definitely planned as yet. But, in a general way, it may be said that the Louisville grocery store survey is to serve as the model for the drug store survey. From St. Louis this latter may go on to other cities.

"The Department has been engaged on a series of cost studies, including the costs of performing individual services, which costs, it is believed, will go a long way towards working out the solution of some problems of marketing and distribution. There have been some such studies in connection with electrical merchandising establishments, as well as paints, groceries, and wholesale drugs, to some extent. We believe that the Department is in a good position to tackle the retail drug store survey in efficient manner.

"Individual services to be studied in this survey will doubtless include the filling of prescriptions, the turnover of goods, inventories, gross margin, cost of handling certain articles, and a large number of other matters involved in the operation of retail drug stores.

"In the Louisville grocery store survey an inventory was taken in each store studied and each item of stock was put on a separate card. There was also a record made of purchases and sales. A second inventory was taken at the end of a month. That gave the turnover sales. Costs, profits, and other items of interest were worked out. The various operations involved in handling and selling were studied, also the costs of filling orders, making sales, etc. With these facts and figures as the bases, the costs of store operation were allocated and distributed among various lines, such as rent, overhead, and so on.

"The drug store survey will be more complicated than was the grocery store survey. A drug store handles from 8,000 to 10,000 items, according to statements made at the Department conference with the trades interested, and some chain drug stores handle as much as 15,000 to 30,000 items. A grocery store on the other hand may handle from 1,000 to 3,000 items. It may be said that a good grocery store should not handle more than 1,000 to 1,200 items. In the Louisville survey it was found that one store carried 17 brands of coffee, which were literally eating up his profits. The best Louisville grocery store found carried only 1,000 items, its inventory being valued at $3,500, but on that basis it did $120,000 business annually.

Trade Must Supply $25,000

"The drug store survey committee is to collect $25,000 or $30,000. The Department will furnish an equivalent value in personnel. Some trade associations will make appropriations to this fund, as will individual manufacturers and merchants. St. Louis will give a considerable share of the total. St. Louis will get more out of it than many other cities.

"This last is indicated by the results accruing from the grocery store survey. In Lousiville there has been a large amount of reorganization of business, remodeling of stores, changing of methods of keeping stock, adoption of modern merchandising methods, and the like, with good results, in the shape of increased sales and lower costs. A model grocery store was set up in connection with that survey. It may or may not be possible that a model drug store will be set up in St. Louis.

"Drug store arrangement will be studied in St. Louis among other things, and there will also be a study of the way in which things are handled in such stores. Stop watches were used in the Louisville survey, without the knowledge of grocery store employees, to determine the time required for doing particular jobs, or filling particular orders. It is obvious that a much shorter time is required taking for a ready-packaged order of sugar from a shelf and handing it to a customer than is required for going to the back of the store and measuring out a pound of tub lard. There are comparable questions to be worked out in the retail drug business.

"There will be some study, incidentally, of manufacturing cost studies to a limited extent. A soda fountain may be a big help in the general merchandising of a drug store, but where is the best place for the fountain? If it were possible to draw patrons to the fountain, past other parts of the store to which they would be exposed to other merchandise, sales might be materially increased. But this remains to be determined.

"It is considered good practice in certain kinds of stores to keep the good, rapid-moving, staple things at the back, where the customer will go for them anyhow. On his way he must pass fancy goods, which has a big tendency to increase sales. It is on this principle that a cafeteria exposes its customers first to deserts. The customer is hungry and selects his desert first, then proceeds on to the meat and vegetable counter, where he feels that he must select substantial portions of his meal in any event.

"The Domestic Commerce Division of this Bureau will work on the St. Louis drug store survey, in connection with the Chemical Division of the Bureau and with other commodity sections, because of the large variety of things handled by the modern drug store. An experienced pharmacist will be assigned from the Chemical Division to assist in the survey. He will work with the Department marketing experts and the trade committee. The conduct of a survey of this kind has a good many technical aspects which need technical marketing experts as well as trade experts.

"Two or three months will be required for preparing plans for the survey, conferring with trade representatives, working out details, etc., before the actual work of the survey starts on the ground in St. Louis. The latter will probably begin in October or November. The entire survey will require a year, but we hope to have certain sections of its results available from time to time during the year.

Summer and Winter Periods

"The study will be made during at least two periods of from two to four months each. The question of what particular periods will be covered will be left largely to the trades committee. It is expected, however, that one period will cover the summer months, when drug store business in certain lines is poor. Another period may cover a portion of the colder weather, such as February and March, when sales of medicinal products, due to the prevalence of certain diseases at that season, are larger than at some other seasons. There may be three different periods of the year covered in the survey.

"We will probably study some angles of the wholesale drug business in St. Louis. There is also a proposal to make a study of retail credit conditions, but that matter will have to be looked into before it is included in the final program of the survey. Retail credit does not appear to be a very important problem with the downtown or chain drug stores, although it may be so in the case of the neighborhood store or the country drug store. However, it is doubtful that any country store will be included in the survey. Different types of stores will be selected for study in this survey, such as neighborhood stores, downtown stores, and chain stores. It is hoped that the chain store people will participate actively in connection with the survey. They were represented at the conference at the Department and indicated their interest in it."

Kotex, Kleenex and other American preparations exhibited at the Paris Fair in the booth shown at the right, while below is an exhibit of Mercurochrome.

Selling to France

By a Special Correspondent

SOME sixty American firms exhibited at this year's Paris Fair, this figure not including French firms handling American products, of which there were any number represented. In fact, the American contingent had on display everything from a dredge to a sewing machine needle, and the information received from everyone interviewed was that the fair had produced satisfactory business. And in this result American drug, toilet and other specialties, of direct interest to the readers of DRUG MARKETS, played no small part.

The Paris Fair has become an institution of vital importance to the business

Tubes with caps that "stand up" when knocked down

It's a lucky collapsible tube that isn't dropped, head down, at least once during its useful life. Are your tubes among the fortunate ones that can stand up under such accidents?

They are, if you pack your products in collapsible tubes of Alcoa Aluminum. These tubes have unannealed caps that are hard, tough and durable. They will withstand a severe blow without breaking. Should these tubes be dropped "head down" their caps won't even flatten out. Their threads will not strip.

On the other hand, the tubes themselves, being annealed, are pliable in use, yet strong—the natural characteristics of Alcoa Aluminum giving them sidewall strength.

In today's keen competition, both the product and the package must be right. If your products are packed in collapsible tubes of Alcoa Aluminum, they have the maximum chance to please your customers. Our nearest office will gladly give you full information about collapsible tubes of Alcoa Aluminum. ALUMINUM COMPANY *of* AMERICA; 2459 Oliver Building, PITTSBURGH, PENNSYLVANIA.

COLLAPSIBLE TUBES OF ALCOA ALUMINUM

Products in bottles that open easily, reseal tightly, get the repeat business

Housewives, today, are looking for convenience. Your product must be bottled to open easily — to reseal tightly.

The Rolled-on Seals of Alcoa Aluminum are the only ones that combine the advantages of initial hermetic sealing at the factory with easy opening and resealing in the home.

That important function, proper seating of the sealing medium on the sealing surface, is accomplished by the R-O Seal in a most ideal manner.

Because the seal is applied unthreaded, the exactly correct amount of vertical, stationary top pressure is easily applied with minimum bottle breakage. Then with the sealing medium held under this constant pressure, the threads are rolled into the cap, tailored to fit the threads on the bottle. Thus the proper sealing pressure is maintained until the cap is removed by the ultimate consumer. This ideal sealing operation is accomplished at almost any desired speed.

Rolled-on Seals of Alcoa Aluminum can be supplied in any solid color, lacquered, enamelled or lithographed. They are made in a great variety of sizes. Our nearest office will gladly supply you with complete information about Rolled-on Seals and the high speed machines for applying them. Address ALUMINUM COMPANY of AMERICA; 2459 Oliver Building, PITTSBURGH, PENNSYLVANIA.

ALCOA
ALUMINUM

"ROLLED ON" SEALS OF ALCOA ALUMINUM

Barbasol dominates the booth shown at the right.

Below is shown one of the most attractive exhibits of toilet preparations at the 1930 Paris Fair.

world, since its inauguration twenty-two years ago, and it draws to it people from all countries. Most important of all, it brings within its huge area of 400,000 square meters, buyers who place orders for delivery to all corners of the globe. This year the number of exhibitors was 7,485, representing thirty-one nations outside of France. The fair is held regularly every year during the month of May, opening this year on May 17 and closing on June 1. Exhibitors this year were turned away, due to lack of housing space, and the attendance is officially reported as having been a record one.

For manufacturers of various kinds of drug, toilet and other kindred specialties in the United States the Paris Fair offers an excellent medium for attracting the attention of the most formidable groups of buyers one could possibly imagine. Paris itself is a mecca, and with reduced railway and steamship rates to France from all points, arranged for by the Paris Fair authorities, it is not difficult to imagine why all of the exhibitors with worthwhile merchandise on display get value received.

No sections of the Paris Fair attracted more attention than those dedicated to the display of drug, toilet and kindred specialties. There one found everything exhibited that makes for bodily comfort and contentment: soaps, toothpastes, razor blades, perfumes, first aid kits, pharmaceutical supplies of every description, and so on. A machine which turned out a well-known brand of pills drew immense crowds, interested in the process applied to supply them with that kind of product. The consumer usually takes so many of these things for granted, and it is only at a place like the Paris Fair that he learns just how some

of the current articles he buys from his pharmacist are really manufactured, and then packed.

Among the American products on display in these sections were: Kolynos tooth-pastes, Kotex, Kleenex, Barbasol, Mercurochrome, Bauer & Black handy tape dressing, athletic supporters, talcum powder, and soap. These products are all selling very well in France, despite all predictions to the contrary by certain people who were originally pessimistic about their possible sale in France, admittedly one of the most, if not the most, conservative nations in the world. American quality, however, is what counts, even with the Frenchman or woman, and both will pay a price for a superior article, if properly approached. True, the progress made is apt to be slower than that experienced in the United States, but once the French consumer is brought really to like a thing he becomes a steady, reliable purchaser.

Price is the most serious obstacle, to begin with, that every exporter of drug, toilet and similar specialties in the United States has to contend with when breaking into the French market. The reason for this is very simple, namely that the earning power of the French is not to be compared with that of the Americans. Families in France are living on incomes of from 1,000 to 2,000 francs per month ($40 to $80), and raising children on those sums, as well as putting something away in the savings account for the proverbial rainy day.

To offset this apparent discrepancy, however, it should be borne in mind that France is very sound from an economic point of view. There is no unemployment, the last statistics issued by the government showing that there are only about 700 persons out of work, and these could be working if they so desired. The situation in France is that of an actual shortage of labor, despite the large numbers of foreigners coming in. Gold reserve in the Bank of France has risen to a little over 50 per cent. Furthermore, the Frenchman has a reputation for moving slowly, but if he does move, then he pays his way. This latter consideration for the American exporter of drug, toilet and other specialties is, to say the least, an extremely important one. The buying power is there, the gold per inhabitant in France being higher than that in the United States, and excellent business can be done by the American firms who will come into France and play the game laid down by that country insofar as business is concerned.

While visiting the Paris Fair with the interests of the readers of DRUG MARKETS in mind, the writer met and had a very enlightening conversation with J. L. Girth, at the head of Amecousema American Trading House, located in Paris. Mr. Girth is an American engaged in export as well as import, his firm exporting Cellulose Watte. He and his company are the exclusive agents of Barbasol Company, Indianapolis; Bauer & Black, Chicago; Cudahy Packing Co., Chicago; Mum Manufacturing Co., Philadelphia; McKesson & Robbins, New York, on several items; Kleenex Co., New York; etc. These activities, naturally, give Mr. Girth the right to talk about importing into, and exporting from, France. He is successfully selling items which require all the ingenuity desired in a satisfactory representative of American manufactures.

In talking with the writer he was emphatic about the fact that the question of price to the French consumer was the hardest thing to solve, for the reason that by the time the goods arrived on French soil they were, in many instances, beyond the reach of the masses, which every business man wishes to secure because of the volume represented. On practically all of the lines Mr. Girth handles the situation was bettered the moment the price problem was answered. And to-day he has brought the Kleenex proposition, for example, to the point where the package which sells in the United States for 28 cents can be sold in France to the consumer for 36 cents, only eight cents more. The ideal he is striving for is to get it to the French people at the same price it is sold for in America, or, perhaps, for just several cents more. Volume, that is the goal he has set out for, and in order to attain that he is bringing his profit down to the very minimum.

One of the most interesting things handled by Mr. Girth, from the point of view of sales, is Mercurochrome. This is selling exceedingly well in France, where the product itself has been treated at length in papers written by French medical men of note. Mercurochrome in France is sold only through the medical fraternity and the pharmaceutical trade, in this way keeping it on a wholly ethical basis. During the Paris Fair, every pharmacist or doctor visiting there was invited to register, and a bottle sent to his address free of any charge. This offer of a bottle which sells for 10 francs, or 40 cents, to the ultimate consumer was brought to the attention of visitors to the fair by an advertisement which appeared in the Revue des Specialtés, or Specialties Review, copies of which were distributed in the exclusive section devoted to products sold only through the medical and pharmaceutical channels.

As will be noted by the reader from the accompanying illustrations of all the specialties handled by Mr. Girth, most of the advertising and poster material used for display is in French. This is a detail which many importers overlook, and it is a detail which, if neglected, will result in loss of sales. There are certain things which do not require anything except the American text, but when drug, toilet and kindred specialties are involved that no longer holds. It may cost money and effort to get the literature, posters, display material for window trims, etc., into shape, but it pays, according to Mr. Girth's experience, extending over some time.

Although Mr. Girth is an American, he has done, and is doing, everything possible to meet the French

(Continued on page 101)

Buying the Dealer

THAT dealer co-operation is still much desired by some manufacturers of specialties is clearly indicated by the latest step taken by Lehn & Fink, Inc. This firm—selling only three main items through the retail drug trade—is now engaged in spending large amounts of money for the purpose of educating the public to the belief that it should be willing to buy its goods from those retailers who maintain prices and thereby insure a good profit for themselves. The campaign is to run for a period of two months with copy appearing in the nationally circulated weeklies, and in the drug trade magazines. The campaign is described as a plan of practical altruism, but we really think that such a statement is going a bit too far in the actual description of the motives behind the attempt.

Mr. Plaut, president of Lehn & Fink, is quoted at some length in the publicity incident to the campaign, said Mr. Plaut with reference to the undertaking:

"Price-cutting can't be passed over lightly, it is a vicious evil which undermines the very foundation of the entire retail structure. The time has come when we must take a definite stand on this problem. It must be attacked in the right way and we are confident that the right way is to convince the consumer of the fact that he can expect no more than fair-value at fair prices with a fair profit to manufacturer, retailer and jobber alike. We are willing to pioneer and spend our own money to bring home to consumer and retailer alike the economic unsoundness of present retail pricing. We will tell the consumer some of the secrets of price-cutting. We will point out in our copy that price-cutting all too often is only a lure to get him into the store in the hope that he will subsequently purchase other goods at more than a fair mark-up.

"The American consumer is fair-minded. He believes in a policy of live and let live. He is no Shylock. He seeks no more than fair value and he is perfectly willing to pay a fair price for what he buys. We realize that no consumer will demand that he be charged forty cents for an article the retailer offers him at thirty cents, but neither will be object to paying forty cents for an article worth forty cents. We are

SUPPOSE YOUR
WEEKLY WAGES WERE
CUT 20%
WHAT A DISASTER! And the fact that you're sure you're worth the full wage and more would not make you any happier, would it?
Yet in many cases YOUR druggist is forced to accept prices that mean the very same thing as a wage cut to him.
YOUR druggist is entitled to a fair profit. He is entitled to buy at a standardized wholesale price, to add to this a proportionate share of his selling cost, then add a fair profit...the result is a fair retail price...When he is forced to sell some merchandise at cut prices he is either forced out of business or is forced to sell you other items—non-essentials, considerably over-priced, which is unfair. In the long run YOU pay.
Lehn & Fink, Inc., for many years has manufactured PEBECO TOOTH PASTE, HINDS HONEY & ALMOND CREAM, and "LYSOL" DISINFECTANT. We take pride in these products—the quality of the ingredients used—the care with which they are made. At established prices they represent fair value. Sometimes they are used by druggists as lures to invite patronage. This reflects the great usefulness and popularity of these products but is destructive to your interests. We regret their having to "carry the load" for merchandise of unknown brands or uncertain value.
If you believe in the American doctrine of fair play, in the humane principle of a living wage, and in the economic soundness of giving value for value received, we believe you will see the desirability of supporting druggists who price ALL merchandise fairly, thus giving you confidence in the value of everything you buy.
LEHN & FINK, INC.
BLOOMFIELD, N. J.
CONTRIBUTED IN THE INTERESTS OF FAIR VALUE TO THE CONSUMER, FAIR PROFIT TO THE RETAILER, FAIR PROFIT TO THE MANUFACTURER

going to take the consumer behind the scenes. He will be given a word picture of the druggists' problems. He will be told that price-cutting is destructive all the way along the line. Our appeal to the consumer will not be maudlin or sentimental. It will be a hard-headed, sound, practical appeal to his reason, his common-sense and his innate sense of fair play."

Lehn & Fink, Inc., founded in 1874, has made it a point through the years to encourage fair retail prices and to advocate sound merchandising policies. The Lehn & Fink Price-Peace Plan of a few years ago will be recalled as an effort in this direction. Mr. Plaut has made a study of retail conditions and is convinced that price-cutting is to-day the predominant evil of the retail drug business.

"The first copy broke in the Saturday Evening Post of July 19th, followed by copy in Collier's on July 26th. Subsequently full-page copy in both Collier's and Saturday Evening Post will be employed. Direct mail copy to the trade will also be used.

The sponsors of this campaign look for it to register a distinct impression upon the consumer's mind. They feel that it is a sincere effort to right a wrong, that is it soundly conceived, logically developed and that it answers a definite need at a critical time. At the same time it is believed that the campaign will provide a stimulus to the retail druggists of the country to band together in an effort to put a stop to the insidious evils of slashing prices on standard merchandise.

In addition to full page consumer advertising in leading magazines, reaching millions of readers throughout the country, the campaign will make use of the entire corps of Lehn & Fink salesmen who will concentrate on leading drug store centers of the nation and endeavor to encourage retailers at these points to raise price levels to a fair standard. Direct mail will take the form of repeated mailings to the retail druggist and will include proofs of the advertisement to be posted in windows or other advantageous points in the store.

Another feature of the work will be co-operation with state pharmaceutical associations and groups of retail druggists. Wherever retail druggists meet they will be reached and assisted to organized action in this movement.

John D. Gillis Dies

John D. Gillis of 6926 Delmar Boulevard, University City, died in London June 24. Mr. Gillis was managing director of the Grasser-Monsanto Chemical Works, Ltd., a subsidiary of Monsanto Chemical Works, having been transferred to London early this year.

Mrs. Gillis and their two sons have been in London about two weeks and will return on SS "Acquitania", sailing June 28, with the body for burial in Moorhead, Minnesota.

Emil Tausig, president of the Empress Manufacturing Co., cosmetics manufacturers, died June 27 in New York. He was seventy years old.

Closures for Glass

(Continued from page 26)

Another class of closure employs what is termed an anchor or friction finish. The form illustrated in sketch I has a smooth surface with no projections. The sealing surface of this finish is on the side. Two illustrations show the manner in which the finish is applied to a jar and tumbler.

A special provision for removal of this seal is a pry-off finish which consists of a ledge or shoulder formed on the container below the regular closure finish. Sketch J illustrates two applications of the pry-off arrangement, one on a friction finish and the other a variable ledge "priof" finish combined with a crown finish.

The band cap utilizes a heavy ring around the top of the container with the sealing surface on the top of the jar. Sketch K shows the band finish and it can be observed that there is a slight inward slope toward the top to the outer surface which affords a means of identification.

A newer type of cap, the Atlas closure, an all aluminum cap, employs the finish shown in Sketch L. This consists of two rings, the upper one of which serves as the sealing surface.

A special finish suitable for the Goldy seal, sketch M, represents a variation in the crown finish designed especially for this seal. A top sealing surface is employed with this closure.

Another special adaptation of the crown is the supercrown. The finish used represents a distinct variation from the usual crown finish as sketch N shows. Instead of a top sealing surface a double surface indicated in the sketch is utilized.

Save-A-Seal—a special type of closure utilizes still another variation in glass finish as may be observed in sketch O.

Upressit, another closure with a name suggestive of the method of application employs the finish pictured in sketch P. A modification of this finish is illustrated in the same sketch. The purpose of this variation which is designed for the Super Seal will be discussed under closure operation.

One closure which possesses a characteristic feature is the Kork-N-Seal employing the finish given in sketch Q.

A finish, sketch R, with which everyone is familiar is that used on the milk bottle. An inside sealing surface is employed with the ordinary paper milk bottle seal. The outside finish sometimes holds a cover cap used to protect the pouring lip.

The all glass sprinkler top which replaces the stopper sprinkler represents a finish which can be employed with various finishes embodying the screw principle. This is illustrated in sketch S with a CT thread.

Calming the Hysteria of the Ten Cent Package

Not only manufacturers support our stand against marketing ten-cent sizes through the regular drug channels, but retail publications have joined in an effort to free the entire drug trade from a state of mind that will spell losses for manufacturer, wholesaler and retailer.

THE reaction that has followed our very definite statement against the marketing of ten-cent size packages of nationally advertised medicinal and toilet preparations through the regular drug channels convinces us that there have been many people in both the manufacturing and retailing branches of the trade who have not realized that their ideas were quite general. There has been no one to lead the opposition to blind acceptance of the ten-cent package in the drug channels. It appears that these people who have very definitely studied the pitfalls of such a plan, have thought that they were in the distinct minority and did not think it worth while to voice their opinions.

But now that DRUG MARKETS has stated very definitely that the introduction of the ten-cent size in the drug distributing channels is economically unsound, other publications have dared to come forward and take up the cause of preventing manufacturers and retailers from making a foolish mistake. Others have merely discussed the subject in a manner that brought the reader to no definite conclusions. These discussions have been mealy-mouthed in character and have appeared in both retailing and manufacturing publications.

Perhaps the most interesting reaction to our article was the request of a retail drug paper to use it in their publication. This was despite the fact that the article was written wholly from the point of view of the manufacturer and mainly for his consumption. Quite naturally we granted the request.

Letters from manufacturers have been most frank and honest, but as is generally the case when frank opinions are given, the request is made that the names of the writers be omitted.

A manufacturer of several toilet preparations, among which is a very widely distributed shaving cream, gives undisputable facts regarding the disadvantages of the present plan both from the point of view of the retailer as well as of the manufacturer. He confesses that he is unable to meet the demand of the drug channels for item which he sells to the ten cent stores because the ten cent stores do not require the spread required by the retail drug channels. He hopes the "the hysteria will die down". His thoughts follow:

"I read with interest your recent article "More Grief for Manufacturers" and I am much more in sympathy with your views than those recently expressed in other trade periodicals.

"We are not in favor of ten-cent merchandise, as we know it is unprofitable to the manufacturer and will eventually prove so to the wholesaler and retailer. As stated in your article, ten-cent packages are almost as costly to prepare as the twenty-five cent sizes and the manufacturer does not get an adequate return. The only justification for the ten-cent size would be to look upon it as paid-for sampling, but from the standpoint of profitable merchandising, we can not see it.

"As far as the retail druggist is concerned, we do not believe that he is geared up to successfully conduct a ten-cent department. To successfully compete with the larger stores he will have to devote his most prominent space to this department and he will have to carry ample stocks to assure good display. It is our belief that if this promotional effort were given to higher priced items, the retailer would fare much better.

"The average manufacturer to-day has a constant battle with the retailer to adequately display his merchandise, and if the retailer won't make this effort on items which yield a higher percentage of profit, where does he think that he is going to gain by putting that energy and expense on items of a lower sales value and narrower profit margin? Drug stores have any number of five and ten cent items which they are burying; if they want to find out how good the five and ten cent idea is, why don't they bring these items out in the light and see what happens before they go into the thing more deeply? Judging from the appearance of the average Five and Ten-Cent Store and the Union News Stands, the druggist should carry three to six dozen at least of each item offered, and should display no less than two dozen. How many do you suppose will do that? And, if they don't, how will the customer know the druggist has such a department and be attracted to it? In the great majority of cases druggists tell they are reluctant to carry merchandise on the counter where the public can readily see it on account of theft. What are they going to do on that phase of the situation in their five and ten cent department?

Tendency to Trade Down

"In times like the present we know it is the tendency to trade downward and many people will buy ten cent sizes even though they know the larger sizes are more economical—they will make the smaller purchase owing to the smaller unit of expenditure. It is our belief that they will prefer to do this in the ten cent store rather than in the drug store, for fear that in the drug store the dealer might try to trade them up, while in the ten cent store they know this can not be done and there will be no embarassment.

"As soon as the present economic conditions begin to mend, the five and ten cent hysteria will, no doubt, disappear as it has in the past. Then the manufacturer will be asked to take back all the unsold merchandise. Also, we fear, when the druggists and department stores who institute these ten cent departments find they do not go too well, they will start to cut prices. The five and ten cent stores who will not meet such competition will have but one recourse, and that will be to throw out the items.

"We sell a few items to five and ten cent stores, but these stores pay us a higher price than the regular wholesale and retail druggists will pay. This has, so far, proved a stumbling block in spreading distribution of our ten cent lines. We certainly hope that the hysteria will die down before we have to take any different attitude in the situation."

A sales manager of a house manufacturing a prominent hand lotion as well as several other nationally advertised toilet preparations advises much along the same strain:

"Your article, "More Grief for the Manufacturer" was read with a great deal of interest.

"We are convinced that the movement is not one that should cause the manufacturers any happiness as it is impossible to put a ten cent item with a spread that is equal to the higher priced package. Most manufacturers do not charge advertising overhead against the ten cent package. We do and we barely break even.

"However, in the ten cent store there is a class of people shopping who will only pay ten cents, and if your product is not among those present, your competitor's package is purchased. I believe that this is a bigger reason for doing business in the ten cent stores than the sampling idea although I believe that there is a lot of buyers later converted to the larger sizes.

Ten-Cent Must Affect Large Units

"Sales of the higher priced packages are bound to slow down when the ten cent package is put into the drug store. I believe myself it is only a spell and the best way to convince the retailers that it is impracticable is to let him try it out. If you tell him he can't have it he becomes angry, and even if you try to convince him the idea is unsound, it is human nature to learn only through experience.

"These are my honest opinions. I believe that the ten cent line will reflect against the retailer as well as the manufacturer.

"The ten cent table for the drug store, in my estimation, should be a place where obsolete items can be disposed of, and where the five and ten cent articles that the druggist must carry in stock can be displayed and turned over more rapidly than if behind the counter."

A definite stand against the ten cent toiletries counter has been taken by "Toilet Requisites", a retail toilet goods publication in the July issue. This article is replete with experiences of retailers who have found the ten cent counter to be losing venture. Says the article in part:

"Several years ago, most druggists should remember, ten cent counters were installed by at least two large drug chains. The counters were movable. They were given a fair trial. They were discontinued.

"About two years ago a lot of agitation lead to the stocking by drug stores, in the ten cent size of, a widely known and reputable item. It cost the retailer seven cents. But after figuring the salary of the pharmacists and the cost of the wrapping, the retailers discontinued the item in the ten cent size.

(Continued on page 63)

SCIENTIFIC ADVANCES

A Review of Patents

UNITED STATES PATENT

Cosmetic for the Skin
Vitamin Product

The following is a process for the production of a vitamin product. It consists in propagating a fungus growth upon a culture medium and extracting the vitamin and other soluble substances that are contained in the mass. Then the vitamin substances are separated from the liquid and are treated with barium hydroxide. The barium content of the solution that is obtained under these conditions is removed and the solution is precipitated with the aid of lead acetate. The lead content is removed from the supernatant liquid which separates out when the mass is allowed to stand, and this liquid is precipitated with the aid of silver nitrate. The metallic content from the resulting compound is removed in the last stage of the process. J. Takamine, Passaic, N. J., J. Takamine Jr., Clifton, N. J. and N. Fujita, Tokyo, Japan, assigbors, Takamine Ferment Co., New York, U. S. Patent No. 1,756,574, filed April 18, 1924.

6-Alkoxy-8-Aminoquinolines

These compounds, which possess therapeutic value, are manufactured by subjecting 6-alkoxyquinoline-8-carboxylic acid amides to the Hofmann decomposition reaction. This is accomplished by treating them with bromine and caustic alakli. W. Schulemann, and F. Schoenhoefer and A. Wingle, Germany, assignors, Winthrop Chemical Co., Inc., New York. U. S. Patent No. 1,758,378, filed Dec. 5, 1927.

Solution of Phosphinous Acid Salts

This process relates to the preparation of stable and sterilized solutions of salts of para-dialkylamino-arylphosphinous acids. The sterilization of these solutions is accomplished in the presence of an acid binding substance. L. Benda, Frankfort-on-Main-Fechenheim, Germany, assignor, Winthrop Chemical Co. Inc., New York. U. S. Patent No. 1,758,425, filed Jan. 4, 1929.

Carton for Cream

A blank is formed to provide a triangular shaped carton. The body of the blank is scored to form the sides of the carton. A flap extends from one side edge. Triangular portions extend from the end edges of one side of the carton. Tabs extend from the triangular portion with the edge furthest from the body forming an acute angle with the edge from which they extend and tabs of trapezoidal shape extend from the end edges of another side of the carton. The edges of the latter tabs form angles with the end edges of the side equal to the angle formed between the side and the adjacent side when the carton is folded and adapted to hold the first mentioned tabs against the adjacent side when the carton is in the folded position. All of the tabs are rounded at their free edges whereby the edges of the first-mentioned tabs, which edges are adjacent to the body, are inserted into the carton, on folding, free from contact with the latter mentioned tabs. G. F. Riegel, New York, assignor, Pinaud Inc., New York. U. S. Patent No. 1,758,589, filed Dec. 21, 1927.

Chemical Emulsion

The process is concerned with the production of an ungent silver caseinate emulsion. It consists of the following steps. The first step comprises the production of an emulsion of alkali caseinate. This is accomplished by dissolving casein in a solution of an alkali or in an alkaline solution. Then an unguentous substance is added to the casein solution. The mass is stirred so as to complete emulsification. The process is also concerned with the production of a colloidal potassium-silver salt of the alkali degradation products of casein. This consists in breaking down casein in a potassium salt solution and mixing the resulting solution with silver nitrate. The latter is added in solution in water. Then the alkali caseinate solution is heated and the colloidal potassium silver salt solution is added to the heated alkali caseinate solution. The mass is stirred until it becomes homogeneous. J. R. Conover, Upper Darby, Pa., assignor, Laboratory of Research Chemotherapy, Philadelphia, Pa. U. S. Patent No. 1,758,651, filed May 29, 1924.

Acyl Resorcinols

Acyl resorcinols are made by heating a mixture of zinc chloride and a fatty acid to a temperature of approximately 125 to 145 degrees C., and then gradually adding resorcinol to the heated mixture. Thus for example hexylyl resorcinol is made by heating a mixture of caproic acid and not more than half its weight of zinc chloride to a temperature of approximately 125 to 145 degrees C and gradually adding resorcinol. A. R. L. Dohme, assignor, Shapr & Dohme, Inc., Baltimore. U. S. Patent No. 1,750,299, filed April 16, 1925.

Ephedrine Ketone Compound

A compound of therapeutic value is obtained by causing ephedrine to react with a ketone. The compound is used in solution form. E. H. Stuart, assignor, Eli Lilly and Co., Indianapolis. U. S. Patent No. 1,749,452, filed Aug. 20. 1928.

Epedrine Aldehyde Compound

This compound is obtained by the reaction between one molecule of l-ephedrin with one molecule of an aldehyde other than one which is an oxidation decomposition product of ephedrin. E. H. Stuart, assignor, Eli Lilly and Co., Indianapolis, Ind. U. S. Patent No. 1,749,361, filed May 3, 1928.

Mercury Bromine Fluorescein

The product that is obtained in this process is the di-mercury derivative of mono-bromo-fluorescein. This product possesses therapeutic properties. W. L. Vogel, Los Angeles, Calif. U. S. Patent No. 1,749,201, filed May 28, 1928.

BRITISH PATENTS

Synthetic Drugs

Complex organic pentavalent antimony compounds, which are soluble in water, are prepared by treating an aromatic ortho-dihydroxy compound containing an acidic group with antimony pentoxide acid or a salt of the acid. The acidic groups are such

as are capable of forming a salt with sodium carbonate, for example carboxylic and sulphonic groups but not nitro, chloro, bromo, cyano, and like groups. The reaction may be effected in the presence of basic substances or the products may be neutralized with basic substances to form salts. The products possess therapeutic properties. According to an example, an aqueous solution of potassium pyrocatechin disulphonate is heated with antimonic acid, the filtered product neautralized with caustic potash and precipitated with methanol. Then again potassium pyrogallol disulphonate is heated in water with diethyl-amino-ethanol antimonate and the product either eavporated to dryness or precipitated with the aid of methanol. Antimonic acid, freshly prepared from antimony pentachloride, is heated with an aqueous solution of sodium pyrogallol disulphonate, the filtered product diluted with caustic soda and precipitated with methanol. Complex salts of pentavalent antimony with pyrocatechin carboxylic acid, protocatechuic acid, alizarin sulphonic acids and gallic acid are similarly prepared. I. G. Farbenindustrie A. G., Frankfurt-on-Main, Germany. B. P. No. 326,533, filed Dec. 12, 1928.

Synthetic Drugs

Methane-sulphonates of aminoaryl arsenic-antimony compounds are prepared by treating an amino-substituted aromatic arsenic-antimony compound, in which the arsenic and antimony are directly linked with carbon or with carbon through another, with formaldehyde-bisulphite or formaldehyde and a bisulphite. The water-soluble products are used therapeutically. I. G. Farbenindustrie A. G., Frankfurt-on-Main, Germany. B. P. No. 326,537 filed Dec. 13, 1928

Synthetic Drugs

Dialkylamino-aklylamino derivatives of hydroxy compounds of the anthracene and phenanthrene series are obtained by converting a reactive compound of either of these series into a basic or more strongly basic derivative in which an aromatic amino group is connected to a dialkylamino group through an alkylene residue. The conversion is effected by the customary methods. I. G. Farbenindustrie A. G., Frankfurt-on-Main, Germany. B. P. No. 326,553, filed Dec. 17, 1928.

Synthetic Drugs

Organo-arsenic compounds are prepared by treating an aromatic arsinic acid containing amino and/or hydroxy groups with aminoalkyl or alkylaminoalkyl halides, or with such substitution products of these compounds as bromoethylphthalimide with subsequent splitting off of phthalic acid. Alternatively, the said arsinic acids may be treated with ethylene oxide or a halogenated alcohol, and the products converted first into the halides and then into the amino or alkylamino compounds. The resulting arisnic acids may be reduced to the arseno stage, either alone or with the addition of a different arsinic acid to produce unsymmetrical compounds. The introduced residues may be straight or branched, and the final products may contain nuclear-substituted amino or hydroxy groups in addition. According to the example, arsanilic acid is treated with diethylaminoethyl chloride and the Normal-diethylami-noethyl-para-aminophenylarsinic acid produced is then reduced to the arseno compound with hydrosulphite. I. G. Farbenindustrie A. G., Frankfurt-on-Main, Germany. B. P. No. 326,789, filed Nov. 13, 1928.

Collapsible Tubes or Containers

A key for rolling up collapsible tubes or containers, in order to expel the contents, consists of a strip of channel section, which is adapted to be clinched on to the folded end of the tube. A removable handle or finger-piece is also provided. The handle may be formed on a strip to be enclosed within the channel strip, or the strip may be separate from the handle, and may project slightly from the strip. The projecting end is perforated for engagement by a wire, or split ring, or by a segmetal handle. The channel strip may be formed with a bore to receive a strip projecting from the handle. A. Morrall Ltd., and B. G. Lewis, Redditch, Worcestershire, England. B. P. No. 327,336, filed June 7, 1929.

Cinchona Alkaloid Solutions

Aqueous solutions of cinchona alkaloids suitable for injection are produced by incorporating a salt of the alkaloid and sarcosin anhydride, or a homologue thereof, with water. The ingredients may be mixed in any order, or double compounds of the alkaloid salts and sarcosin anhydride may first be prepared. This is done by dissolving the components in a solvent such as benzene, with heating and then evaporating the solvent. Compounds of one molecule of alkaloid salt with one, two or three molecules of sarcosin anhydride are referred to. Homologues of sarcosin anhydride may be employed in its stead. These homologues contain hydrogen or alkyl groups attached to the nitrogen and carbon atoms. According to examples the alkaloid salts employed are hydrochlorides and hydrobromides of quinine and hydroquinine, or quinine base may be used together with hydrobromic acid, and a homologue of sarcosin anhydride specified is 1:4-diethyl-2:5-doketopiperazin. This compound is prepared from ethylaminooacetonitrile by saponification in a similar manner to that employed for the preparation of sarcosin anhydride from methylamino-acetonitrile. I. G. Farbenindustrie A. G., Frankfurt-on-Main, Germany. B. P. No. 327,428, filed Jan. 3, 1929.

GERMAN PATENTS

Esters of Succinic and Malic Acids

The process of making esters of succinic and malic acids consists in allowing elementary hydrogen to act upon maleic acid or fumaric acid in the presence of an alcohol. The reaction is carried out at an elevated temperature. I. G. Farbenindustrie A. G., Frankfurt-am-Main. G. P. No. 485,313, filed Nov. 8, 1924.

Stable Pancreatic Preparations

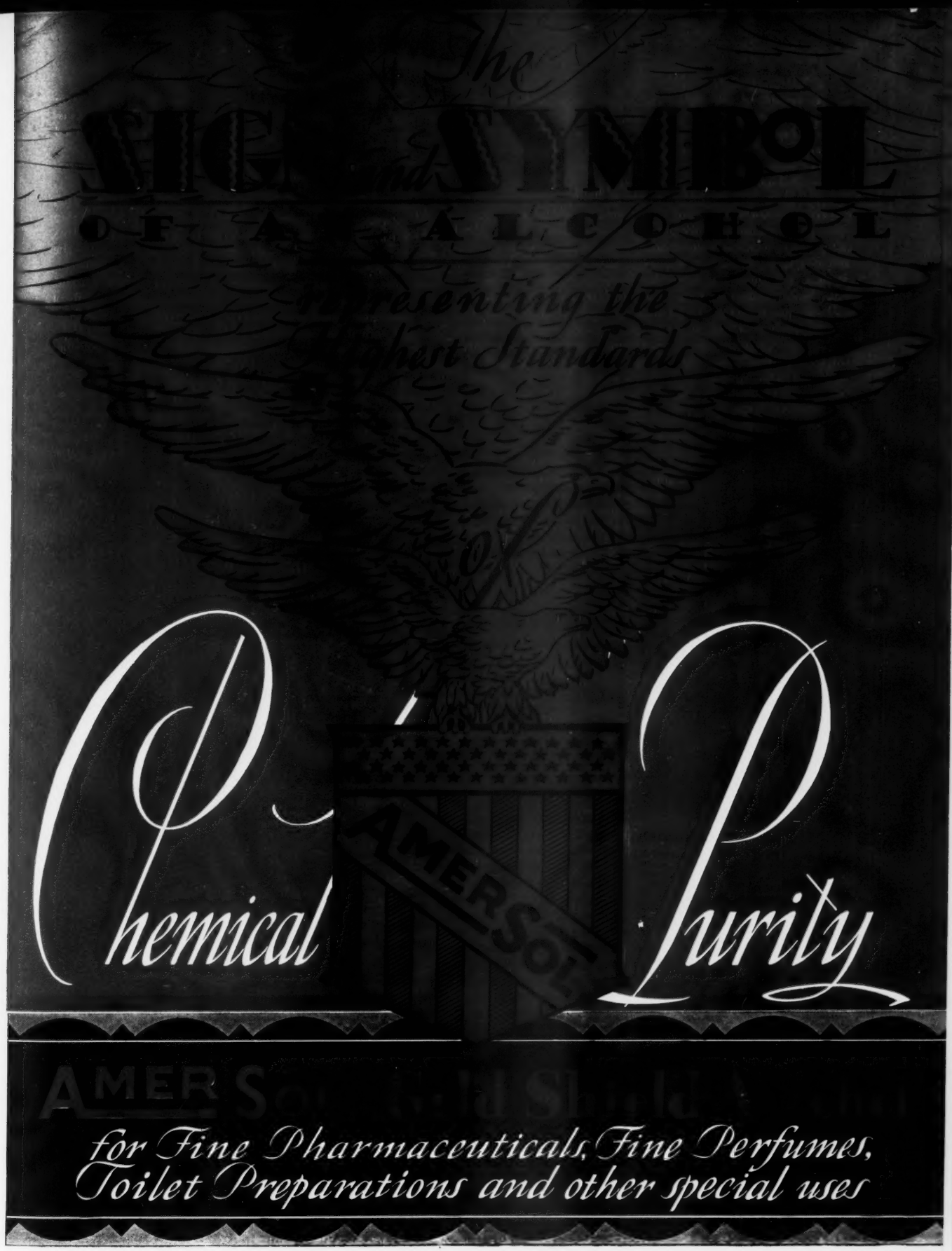
Stable preparations, used for medicinal purposes, are prepared from the pancreas by the use of urea and its alkyl derivatives. I. G. Farbenindustrie A. G., Frankfurt-am-Main. G. P. No. 486,198, filed Dec. 28, 1927.

Vitamin Preparations from Vegetables

In the method of preparing vitamin-rich compositions, for which various vegetable materials are used as raw materials, all the stages of the process, including the mechanical preparation of the vegetable raw materials, are carried out in the absence of oxygen. Metallic salts, particularly the neutral acetate of copper and of lead are used as precipitating agents. The precipitates that are obtained in this manner from vegetable juices, and in certain instances mixed with vegetable pulps, are extracted with the aid of solvents for vitamins. The extraction operation is carried out on the dried and pulverized precipitates. Such solvents as petrileum ether are used. The solvent is then removed from the extracted material by evaporation. L. A. Agopian, Paris, France. G. P. No. 486,228, filed Sept. 25, 1926.

Substituted Barbituric Acids

Halogenated allyl-barbituric acids of such nature are obtained in which chlorine or bromine is contained in the beta -r gamma, or both positions of the allyl radical at the fifth carbon atom of the pyrimidin ring, and as a second substitution either a halogen-ally group of like or different character, or an alkyl, aryl or hydrogenated aryl radical in the second carbon atom of the methylene group. J. D. Riedel-E. de Haen A. G., Berlin-Britz. G. P. No. 485,832, filed June 29, 1924.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SALES OFFICES AND WAREHOUSES ALL OVER THE COUNTRY

Nebraska

Puts Extract Bottles

"ON THE SPOT"

Three types of bottles all holding two ounces

Condemned in Nebraska, the threatened extract bottle is now demonstrating with peculiar force the practical difficulties of properly and sanely administrating the Slack-Filled bill in fairness to the business as well as to the public.

FOR a striking example of how government regulatory work can go to unreasonable extremes and seriously unsettle business, manufacturers should turn to Nebraska. In this state, O. V. McCracken is Chief of the Bureau of Dairies, Food, Drugs and Oil. To Mr. McCracken, his bureau, and his state, should be awarded the doubtful honor of demonstrating how harmful might be the effects of the Haugen Slack-Filled Bill which passed the present House, but which failed to get a hearing in this Senate.

Nebraska is the first and only state to have a slack-filled bill of its own. Modeled after the Haugen Bill, with the same generalizations and vagueness of definition, giving broad regulatory powers to enforcement officials, the wide spread business uncertainties which have followed its application in this state are worth careful study. And just now, in Nebraska, things are happening.

The flavoring extract bottle is the scapegoat. Mr. McCracken can see neither art nor virtue in its design. His order abolishing it has all the vigor and terseness of that once familiar—"Orders, G.H.Q."

We well realize that it would be a rather hardy individual who would come out in support of all panel bottles. The best friends of this type of container—which include some of the makers and some of the users—admit frankly enough that in recent years panel bottles have on occasion gone beyond the pale of what might be termed honest packaging. The fact that these same friends of the panel bottle — through association work and in co-operation with the Division of Simplified Practice in Washington—have been making satisfactory progress toward a settlement of this situation is beside the present point.

As most people realize, the panel bottle has an old and honorable background. It has carried the products of some of the finest manufacturers for more than two generations. For flavoring extracts and some cough syrups, its form is a tradition and is in the nature of a trade-mark. From the view point of the ultimate consumer of the product the chief advantage of the panel bottle has been the convenience of its shape for use. Easy to handle; hard to let slip; its original design contained no thought of deceptive packaging. Probably the average housewife of a generation ago used more flavoring extracts than are

used per family in an equal time to-day. But even then the demand generally was for two ounces or less at a time; to-day probably less is required for any one purpose. This meant that the prescription bottle of ½ ounce, 1½ ounce, or 2 ounce would be a real source of inconvenience due to its small size which results in difficulty in handling. To state dogmatically that women are deceived by the panel bottle or by the long neck of the bottle—the contents always being stated on the label—is an unwarranted assumption that only careful investigation could substantiate.

Unfortunately for the panel bottle, and for flavoring extract manufacturers, so far as present conditions in Nebraska would indicate, some manufacturers have of recent years developed the side wall thickness of the panel bottle to a point at which—as one official expressed it—it would be difficult to place a sheet of paper between the inside walls of the bottle.

It would be difficult to find a justification of these extreme cases. The flavoring extract manufacturers have been paying freight on a bottle weighing six or eight ounces, but with a capacity of only one or two ounces. These bottles are a distortion, an exaggeration of a fundamentally honest design. The purpose of such bottles is plainly one of deception. If the case in Nebraska rested upon the suppression of these gross exaggerations, industries affected would neither have wished nor dared to raise their voices in protest.

The Nebraska Case

This is the Nebraska case:

A manufacturer of extracts—of unquestioned integrity, and in business for more than forty years—received notice that his bottle violated the provisions of the Nebraska Slack-Filled Law. Correspondence received on March 5, 1930 brought him the inspector's report containing the terse recommendations of the Chief of Bureau, "Remove from sale in Nebraska by April 1, 1930."

Despite the fact that this manufacturer was able to show that his bottle had not for several years been of the type described in the inspector's report, and that an independent check made by a consulting chemist was at variance with the inspector's statement as to the volume of the contents, the only answer of the department official to the protest of the manufacturers was the following gem of sales psychology and packaging wisdom:

"When a bottle with a long neck is placed in a carton, it makes too large a package for the amount of food stuffs contained therein."

"There is no reason in our mind why an extract bottle should have a long neck any more than other liquids. We maintain these bottles should be patterned after the regular prescription bottle style."

Needless to say this artistic conception of Mr. McCracken finds small favor with manufacturers of glass containers, cartons, labels, or extracts. The chief concern of the industries producing glass containers as well as equipment for filling, labelling, corking and capping these containers, lies in the fact that these producers have quite large investments in moulds, machinery and equipment, as well as in the fact that uncertainty regarding forward commitments has occurred among the users of bottles as a result of this extreme and difficult to understand decision.

The Haugen Slack-Filled Package Bill will not pass the present Congress. It passed the House, but failed to be brought before the Senate. But it has the endorsement of the Department of Agriculture and, judging from the vitality it has displayed in the past, it will make its appearance again. Like all similar measures the bill expresses an ideal with which no one can sanely take issue. But the bill also creates an administration which is a potential for crusades, misguided idealism, downright ignorance, and the kind of political ambition which no manufacturer cares to face.

It is open to question whether a glass container, not designed in a deceptive shape, forms a basis for a charge of deception when it is only partially filled, since one of the outstanding virtues of glass is its visibility.

Honesty in packaging will always be to a certain extent relative, depending upon chemical or technical limitations of the product, mechanical requirements in packaging, the type of consumer for which the goods are intended, public habit in recognizing particular shapes of containers for certain products.

To strain this quality of honesty to a point where the manufacturers engage with uncertainty in designing an artistic, unique container; where they find wierd and idealistic conceptions of honesty, subject to political change without notice, would certainly not be the intention of the House or the Senate in passing the Haugen Bill.

Yet if we may judge from past experience and from present news from Nebraska, such a period of misery for many manufacturers and for the wide and varied group of industries supplying these manufacturers with their containers and equipment, is not unlikely. If the voice from Nebraska can hold the prescription bottle as the ideal container of regulatory work for all liquid products, we shudder at the forlorn path which honesty demands our products must travel. If our bottles must be shorn of their long necks regardless of convenience in pouring drops, and if corks are under grave suspicion because, when inserted for easy removal, they add a fraction of an inch to the bottle neck thereby necessitating a larger protective carton than the bottle itself would indicate, we readily see that our utterly innocent public is to be protected—be damned to it if it doesn't like it or finds it less pleasant to use the products.

Sharp competition and natural born dishonesty have created dishonest packages. A nice little sermon could be written on whether this pays the manufacturer even in the short run. Advertising to-day is laboring under too heavy a burden to produce results without adding to it the millstone of a chagrined and deceived customer.

But even if the *dishonest* package—which is a better way of describing the evil which Mr. Haugen would correct then by his misleading term *slack-filled*—is a menace to public interest, surely we have better ways of correcting this evil than by burdening the Department of Agriculture with more regulatory work, and by starting a new era of uncertainty for industry.

Why does not the bill define clearly, specifically, and in detail, just what comprises a slack-filled package, what leeways are allowed, what rigid limitations are set, so that each manufacturer can look at his package and be reasonably certain where he stands ?

Why does not the department or Congress initiate a move first to see if any existing evils can be corrected by existing agencies—Division of Simplified Practice, trade associations, standardization committees, Federal Trade Commission, etc.

We are all for the correction of any purposeful, clearly intentional dishonesty in package design. We do, however, decry the imposition of more regulation of business with its resulting business uncertainty, until a far better case has been made for the slack-filled bill, and a far better way to administer it is found.

The paneled bottle at the left holding only three-quarters of one ounce is shown alongside a bottle of the same bulkiness holding *a full two ounces*

Three bottled drug products *that must necessarily be slack-filled.* Citrate of Magnesia and Hydrogen Peroxide must have ample room for expansion. A *counted quantity of* tablets must be kept from shaking by cotton. What will be done with these?

The Literature Says:-

Identifying Cocoa Butter

If one gram of cocoa butter is added to a freshly prepared solution of fifteen grams of phenylamin and fifty five grams of acetic anhydride and thirty-three grams of 95 per cent. ethyl alcohol, the cocoa butter dissolves completely by heating and when the solution is cooled it remains in a perfectly limpid state without the formation of crystals. On the other hand, if other materials, such as cocoanut oil, stearin, lard or paraffin are added to cocoa butter, these fatty and oily substances solidify during the cooling of the solution and often form crystals.

Moreover, it is possible to determine the presence of foreign substances in cocoa butter by noting that the difference between the melting point of the fatty acid contained in this butter and that of the glycerine of cocoa is about twenty degrees C. This figure is much greater than those found in most of the products which are employed for adulterating cocoa butter.

The figures given below show the melting points of fats and fatty acids contained in different products.

	Fatty Substance	*Fatty Acids*
Cocoa butter	26 to 33	48 to 53 degrees C.
Horse fat	25 to 39	36 to 42
Stearin	29 to 32	38 to 42
Cocoa nut oil	20 to 38	27 to 24
Vegetable butter	35 to 53	34 to 36

G. Issoglio, L'Industria Chimica, volume 4, 1929, pages 195ff.

Peanut Oil in Olive Oil

Peanut oil is often used to adulterate olive oil which is an important pharmaceutical product besides being used for other alimentary and industrial purposes. It is therefore often necessary for the pharmaceutical chemist to examine olive oil in order to determine whether or not it has been adulterated with peanut oil. In order to detect the presence of the latter oil in olive oil, the author proposes a method which is based on the difference of solubility in alcohol of the lithium salts of fatty acids. The following conclusions have been deducted from several experiments carried out on various samples of olive oil.

The lithium soaps of pure peanut oil or peanut oil mixed with olive oil precipitate from their alcoholic solution at a temperature greater than that at which the lithium soaps of pure olive oil precipitate. This temperature is directly proportional to the quantity of peanut oil present.

The fatty acids obtained by decomposition of the lithium soaps, collected at a temperature of 17 to 18 degrees C, precipitate from their solution in 90 per cent. alcohol only if arachidic acid is present. The temperature at which precipitation takes place is proportional to the quantity of peanut oil present in the olive oil.

Among the fatty acids separated from 90 per cent. alcohol it is possible to obtain crude arachidic acid whose melting point varies between 72.5 and 73 degrees C. This method is sufficiently accurate, even in those cases where only small amounts of peanut oil, as low as five per cent., are added to adulterate olive oil. M. Jaffe, Annali chim. applicata, volume 18, pages 368ff.

Vitamines and Hormones

With few exceptions it is impossible to distinguish by chemical or physical methods between the hormones or vitamins and to determine their value. These substances can however be recognized by their action on the organism. A specific biological tests must exist for this purpose. A standard preparation must be available for dosage. The hygenic organization of the League of Nations has been concerned with the establishment of international standards and methods.

The different endocrine glands excrete often not a single active substance, a hormone, but several. Thus the anterior lobes of the hypophysis produce a hormone favoring growth, another active in the metabolism and a third regulating the functions of the ovaries. The author discusses the properties and characteristics of various hormones. Mention is made of choline as a hormone which regulates the movement of the intestine. A method of distinguishing choline by the biological method is described in which choline is first converted into the form of acetyl-choline which is one thousand times more active than choline.

The hormones of the sexual organs are also studied. Biological methods of testing and distinguishing these hormones are described.

The vitamins, just like the hormones, in extremely small quantities, possess characteristic action on the organism. Vitamin A of the lipoid-soluble vitamins has been prepared in a very concentrated form. The characteristic color reaction with antimony trichloride should be specific and parallel with the biological activity of the vitamin. Vitamin D has also been prepared in a state of satisfactory purity by ultra-violet ray irradiation of ergosterine. Chemical and physical methods are not sufficient to distinguish the hormone and hence biological testing is required. Vitamin E has been studied very little. It is important as far as reproduction is concerned. Its absence causes on the twelfth day the death of the foetus in the mother. Vitamin B, soluble in water, has also been prepared in a satisfactory state of purity. It is of complex nature and is composed of at least two constituents. H. Kreitmair, Pharm. Ztg., 1929, no. 44,721.

Organic Mercury Compounds

These compounds have the following general formula:—R-CO-R′. In this formula the symbol R represents an aromatic or cyclic radical and R′ an aliphatic radical. At least one of the groups R and R′ contains one or more solubilizing substitution radicals or such of the nature of the nitro group which can be readily converted into a solubilizing substituted radical. These compounds are mercuriated. Dr. A. Albert, Muenchen. G. P. No. 482,926, filed Nov. 1, 1922.

Pharmachemistry of Asafoetida

The asafoetida which the author examined contained 69 per cent. of resin soluble in acetone and 31 per cent. of gums and impurities. In the 69 per cent. of resin, there were contained 50.1 per cent. of resene and essential oil, one per cent. of substances soluble in ether (probably free resinol) 16.57 per cent. of asaresinol ferulic ester and 1.33 per cent. of free ferulic acid.

The ester is very labile; when attempts are made to isolate it, it decomposes rapidly into its constituents. Moreover it has still been impossible to obtain either the acid or the resinol in the crystalline state. Resinol is not a coniferyl alcohol; it is probably a phenol. The ester is the part of the drug which causes the changes in color from red, to reddish violet and brown.

The fresh drug does not contain vanillin. This substance is formed by the oxidation of ferulic acid. The substance which has previously been designated as "asaresinol-tannol" is really a mixture. The resene yields umbelliferone by distillation under considerably reduced pressure. Two constituents are indicated in resene, which is a mixture. These constituents are asaresene A which has the following formula:—$C_{24}H_{32}O_4$ and rotates light

to the left, and an asaresene B to judge from the hydrogenated product isolated (notably hydroasaresene B with the following formula:—$C_{20}H_{30}O_5$). Asaresene B contains four atoms of hydrogen or, more or less than the hydrogenated compound. M. Baumann, Pharm. Weekblad, 1929. Number 34, pages 746ff.

Disinfectant

This consists of an aromatic or hydroaromatic sulphonic acid (derivatives and substitution products) or salts of these acids. These contain as substitutes in the nucleus one or several pure alipgatic or cyclo-paraffinic side chains with atl east three carbon atoms. The product may also be mixed with other antiseptic agents. I. G. Farbenindustrie A. G., Frankfurt-on-Main. G. P. No. 482,855, filed Aug. 11, 1925.

Female Sexual Hormone

It has been reported that a crystalline substance of a very high degree of activity has been obtained from the urine of pregnant females, the activity of the substance being approximately eight million ME per gram. A crude oil obtained from such urine and possessing an average activity of 30,000 ME per gram was used as the starting material. The raw product was subjected to a thorough purification by several suitable divisions between two solvents, according to the well known principle of separating a substance into its component parts. The last liquor is concentrated by careful fractional distillation under a high vacuum. At a vacuum of 0.02 to 0.03 millimeters of mercury and a temperature of 130 to 150 degrees C, an oil distills over, which contains 5 million ME of active substance per gram. A crystalline substance can be obtained from the latter substance by slow sublimation in a high vacuum or by treatment with suitable solvents which does not lose its high activity of eight million ME per gram even after repeated recrystallization. This hormone which has been called progynon is easily soluble in alcohol, acetone, chloroform, benzene and hot ethyl acetate. It is difficultly soluble in cold ether, petroleum ether and water. It crystallizes from ethyl acetate or dilute alcohol in characteristic colorless leaflets, which melt at about a temperature of 240 degrees C with gradual decomposition. Progynon does not contain nitrogen and sulphur. A micro-carbon and hydrogen analysis gave 78.31 per cent. of carbon and 8.13 per cent. of hydrogen. The formula for this hormone may be either $C_{16}H_{20}O_2$ or $C_{23}H_{28}O_3$. Dr. A. Butenandt, Naturw., 1929, page 879.

Acetanilide Tests

The following tests are indicated as being satisfactory in identifying this substance and determining its purity. The isonitrile reaction is disagreeable to carry out for the reason that the odor produced is very repulsive. The indophenol reaction is superfluous. Furthermore, these two reactions, which are commonly mentioned in the official pharmacopoeias, are difficult to carry out.

The following reaction suffices with the determination of the melting point of the substance. A small amount of acetanilid is dissolved in a little water on an object glass while being gently heated by means of a micro-burner. The liquid on the object glass is exposed to the action of vapors of bromine coming from a flask containing bromine water. The liquid rapidly becomes cloudy which is due to the formation of para-bromoacetanilide. Monoclinic prisms in well formed condition are observed when the object glass is observed under the microscope. These crystals are in the form of small rods grooved at the ends. The only substance which must be taken into consideration in this test and this can be done by examining its melting point, is antipyrine. This substance will give an amorphous precipitate under the same conditions as indicated above.

All the other tests given in the pharmacopoeias are superfluous. Aniline salts benzopheno, phenyldimethylpyrazolon, phenacetin, are identified by means of their melting points or by the bromine reaction. With the exception of aniline acetate, which may be found in the acetanilide as an impurity, the remainder of the substances are substitutes for acetanilide.

If it is desired to test for the presence of free acid, it is sufficient to place a little acetanilide on moist litmus paper. Aniline salts are also recognized in this manner for these salts have an acid reaction due to hydrolysis. L. Rosenthaler, Pharm. Zeitung, 1929, number 81, pages 1035ff.

Iodoform in Iodoform Gauze

Vuarios samples of iodoform gauze were examined. The asserted percentage of iodoform was not found in any instance. This is attributed to the evaporation of the iodoform during the preparation of the gauze. It seems to be impossible, in spite of the greatest care, to obtain even distribution of the iodoform in the gauze. Pharm. Zeitung, 1929, pages 468ff.

Nitrobenzaldehyde as Reagent for Organic Medicaments

Nitrobenzaldehyde is used as a reagent for detecting the presence of certain of the commoner organic medicinal substances. The reaction that takes place between the latter and the reagent produces a characteristic color effect. These colors are listed in atable. The tests are carried out with alcoholic solutions of ortho-para and meta varieties of nitrobenzaldehyde in the presence of sulphuric acid. The three isomerides show little difference in behaviour in general, though in some cases only the ortho compound reacts. H. W. van Urk, Pharm. Weekblad, 1929, 66, pages 429-435.

Determination of Carbon Tetrachloride in Chloroform

Two cc. of chloroform and a half a cc. of concentrated sodium hydroxide solution are carefully added to a few cc. of 1% alcoholic solution of pyrocatechol. A small amount of copper powder is added. Then the mixture is heated rapidly and boiled for 8 to 10 seconds. The mixture is thereafter cooled, and 1cc. of bydrochloric acid and 1cc. of water are added. After shaking the liquid is filtered. If the chloroform does not contain more than 0.25% of carbon tetrachloride, the color of the filtrate is pale yellow to yellowish brown; when the carbon tetrachloride content is between 0.25 to 0.50%, then the color is yellowish orange, and when the percentage is greater than 0.5% the color is reddish purple. When the chloroform does not contain any carbon tetrachloride, there is no color reaction. J. Sivadjian, Journal Pharm. Chim., 1929, viii, volume 9, pages 434-7.

Determination of Total Alkaloids in Cinchona Bark

This method depends on an observation that the author made in the course of making analyses by the Kjeldahl iodometric method. This observation was that the reaction between an acid and a mixture of iodide and iodate in excess is complete and accurate, and remain uniform, in the presence of an excess of sodium hyposulphite, when decinormal solutions are worked with.

The alkaloids are extracted from the pulverized bark by means of a mixture of ether and chloroform in an alkaline medium, after the bark powder has first been brought into contact with 1% Concentrated hydrochloric acid on a boiling water bath. This is in accordance with the Swiss method. The ether-chloroform solution thus obtained is filtered and the precipitate is washed with water, then exhausted with known volumes of decinormal sulphuric acid, the operation being repeated several times. The acid liquors are then united and after the dissolved solvents have been driven off by heating on a water bath, the solution is poured into a mixture of iodide and iodate in excess mixed with a volume of decinormal solution of sodium hyposulphite equal to the total volume of the decinormal solution of sulphuric acid used for washing the bark. After the solution has been allowed to stand for 10 minutes, the excess of sodium hyposulphite is titrated with the aid of a decinormal solution of iodine, the solution being agitated after each drop is added in order to make the precipitate of

"iodosels" disappear. The end of the titration is fixed by the instantaneous appearance of a yellowish-brown opalescence, permanent and stable.

The hyposulphite used in excess corresponds to a quantity of iodine which could not have been liberated in the iodometric reaction developed by Kjeldahl, due to the neutralization of an equivalent quantity of acid by the alkaloids in the sample used for analysis, since in the Kjeldahl reaction six equivalent acids liberate six atoms of iodine.

The volume of iodine which is finally used corresponds therefore exactly to the volume of acid which is combined with the alkaloids of the sample. The method has been found to be accurate and has been verified by a number of experiments carried out on quinine salts on the one hand and also on various samples of cinchona bark on the other hand. It is furthermore practical, rapid and can be used for the analysis of other alkaloidal drugs. R. Dubreuil, Bulletin Soc. Pharmacolog volume 35, pages 635 ff.

Zymosterol from Yeast

Zymosterol is a dextro-rotary sterol found in yeast. It is found there along with ergosterine. It can be prepared in the following manner. After saponification of the alcoholic extracts of yeast by the ordinary methods, an unsaponifiable residue remains, which is separated into a fraction which is highly laevo-rotary and from which the ergosterine constituent is separated. This is accomplished by means of ether and alcohol extractions A second fraction is also obtained which is almost inactive optically. This is dissolved in the cold in fifteen to twenty volumes of anhydrous ether and fractionated by successive concentrations. The first crystallizations, more dextro-rotary than the others that follow, are refractionated in their turn. A dextro-rotary sterol is obtained after a long series of crystallizations in ether. This is zymosterol.

The various chemical and physical properties of zymosterol and also of oxyzymosterol are also discussed in the original article. H. Penau and G. Tarnet, Journ. de Pharmacie et Chimie, 1929.

Barbituric Acids

The purpose of the method is to introduce the beta-bromo-allyl radical into barbituric acid or its carbon-monosubstituted products without preceding separation of dibromopropane. This is accomplished by starting directly from tribromopropane. J. D. Riedel-E. de Haeen A. G., Berlin-Britz. G. P.No. 482,841, filed April 11, 1924.

Cedar Wood Oil

When cedar wood is subjected in a closed vessel to the action of heat, it gives, as do all the coniferous woods, a variety of products which differ according to whether the operation is carried out with the wood dry or in the presence of water. The first operation yields an esssential oil; the second is a pyrogeneous or tarry oil, which is quite liquid in consistency.

The pyrogeneous oil has been used of old in medicine. It is a product which is much liked in treating human and animal diseases in certain parts of the world such as Algeria, Morocco, but it has not attained universal application.

Cedar wood oil has been used as a substitute for sandalwood oil in the treatment of blennorrhoea. It has been found that the efficacy of the oil is anyway about as great as that of sandalwood oil and furthermore the cedar wood oil is more tolerated by the organism.

Cedar wood oil is a limpid liquid of yellow color, soluble in at least six volumes of alcohol of 90% concentration at a temperature of 20° C. Its density at 15° C. is from 0.939 to 0.945; its acid coefficient is less than or equal to unity and its ester number after acetylation about 20.

The pyrogeneous oil is a liquid, which is black by reflection with a peculiar empyreumatic but wholly agreeable odor. Its density at 20° C. is less than 1.05. It contains less than 3% of water. It gives 30% residue when distilled at a temperature of 300° C. under atmospheric pressure. Its soluble acidity is less than unity. M. R. Massy, Bulletin de l'Institut du Pin, No. 56 1929.

Stable Grease-Less Skin Creams

It very easily happens that the mass becomes gritty or forms lumps. These cannot be removed after they have been formed and cannot be rubbed into the skin. In this case the indications are that saponification has not been complete. A good emulsion is obtained when a little alcohol is added to the mass after the completion of the saponificaiton process. The temperatures must be maintained accurately within the prescribed limits, and it must not decrease below 80° C.

One formula which can be used for the preparation of these creamas and which is said to give good results is as follows: A mixture, which contains 1,600 parts by weight of water, 300 parts by weight of glycerin, 180 parts by weight of stearin, 50 parts by weight of alcohol 95%, 18 parts by weight of potash, 15 parts by weight of rose water, and one part by weight of vanillin, is made up according to the following directions. The water and the glycerin are first brought up to the boiling point. In the meantime the stearin is melted down in another pot. Potash is then added to the boiling mixture of water and glycerin and a solution is obtained. The solution is allowed to boil for a time and then the molten stearin, which is at a temperature of 80° C. is allowed to flow into the solution in a thin stream. The aforementioned hot solution, whose temperature must not be allowed to drop below 80° C. is kept in a sufficient large kettle or enamelled pot and the mixture made in it. The mixture is constantly stirred while the molten stearin is gradually added. Saponification is finished when the mixture no longer rises in the pot. The combination of the potash and the stearin is materially enhanced by the addition of a certain amount of alcohol. Before the pot is removed from the fire or the heat shut off, in case gas is used as a fuel, care must be taken to test the mass to see if it will cool down into a mass of creamy consistency. This may be done by taking a small sample from the pot and testing it. After the fire has been removed, the hot pot is placed in a bath of cold water and stirred around in it, until it becomes thick. Then a suitable perfume may be added and the mixture stirred until it cools down completely. There are many ways in which the perfuming can be done and it need not be described here. It may, however, be mentioned that 5 parts by weights of eau de cologne and 15 parts by weight of chypre perfume may be used in perfuming the above mass. These proportions are correct. Deutsche Parfuemeur Zeitung, through Der Parfuemeur, 1929, page 28

Decolorizing Essential Oils by Means of Ultra Violet Rays

A study was made of the decolorizing action of the ultra-violet ray on two essential oils which are largely used in the perfume industry, namely distilled oil of lavender and oil of eucalyptus.

The original oil of lavender had a density of 0.885 at a temperature of 20° C. and a light rotary power of 5.3° as well as an index of light refraction of 1.4661. One part by volume of the oil is soluble in 2.3 parts by volume of alcohol at a temperature of 20° C. The oil contains 27.5 per cent. of esters and salts calculated in terms of linalyl acetate. The oil is colored a deep yellow. Tests have shown that if twenty cubic centimeters of the oil are exposed to the action of the ultra-violet ray for a period of one hour, the color of the oil obtained is equivalent to the color of 19.5 cubic centimeters of the original oil, tested in a Duboscq colorimeter. At the end of seven hours of the ultra-violet ray treatment, the color of the original twenty cubic centimeter sample is equivalent to that of 11.5 cc. of the original oil, and at the end of fourteen hours to 2.5 cc. of the original oil and finally at the end of 21 hours to 0.5 cc. of the original oil.

The oil of eucalyptus oil used had a density of 0.9133, a rotary power of 10.3°, an index of refraction of 1.4635. One volume of

(Continued on page 59)

Telephone Typewriters cut Operating costs for Business firms . . . Large and Small

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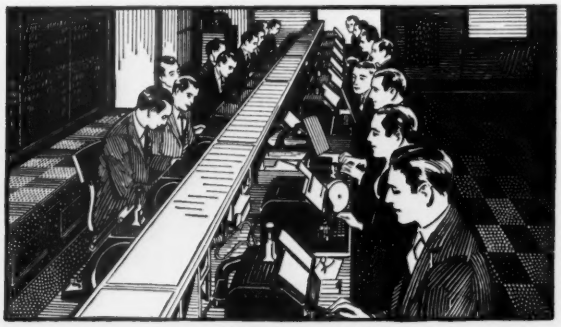
New York Office



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Drug Industry Stocks

1930 June 30 Bid	1930 June 30 Asked	1930 High	1930 Low	1929 High	1929 Low	ISSUES	Par $	Shares Listed (000 Omit.)	Earnings per share An. Rate		1929
						NEW YORK STOCK EXCHANGE					
121⅛	121⅜	156½	108½	184½	86	American Can	25	2,474	$4.00	†	6.86
144	145	147	140½	145	133½	pfd	100	412	7.00	†	48.17
9	9½	33	9¼	55	20	American Com'l Alcohol	No	382	1.60	*	2.59
56	56½	69½	55	85⅞	40	American Home Products	No	611	4.20	‡	2.67
6¾	7⅛	22⅛	6¾	...	...	American Solvents & Chem. Co.	No	...	...		...
20½	21	33¼	21	...	...	pfd	No	...	...		...
51¼	52	64⅛	50	...	...	Colgate-Palmolive-Peet Com.	No	1,999,970	...		...
...	...	...	...	...	...	6% pfd	100	151,449	...		...
12¼	12⅞	22¼	11⅛	23½	12	Container Corp. Class A	20	279	1.20	*	1.23
4¼	4½	8½	3½	11⅛	3⅛	Container Corp. Class B	No	588	...	*	0.14
18	18¼	33	15⅞	82¼	18	Coty, Inc	No	1,493	2.00	*	2.46
71	72	87⅞	67	126¼	69	Drug Incorporated	No	2,941,776	4.00	†	3.10
...	...	61⅛	52½	79½	40	House Hold Products	No	575	3.50	‡	2.64
80½	81	113	76½	157¼	80½	Lambert Co	No	699	8.20	*	7.79
24½	25	36	22½	68½	28	Lehn & Fink	No	419	3.20	‡	2.20
21¼	22	37⅛	18¼	59	21¼	McKesson & Robbins. Com	No	1,911	2.00	‡	1.50
37	43	49½	35	63	40	pfd	50	421	3.50	‡	5.13
36⅜	37	63½	35	80½	47	Monsanto Chemical Co	No	398	1.25	*	4.44
48	50	60¼	45¼	87½	43	Owens-Illinois Glass Co	25	827	...	*	4.04
...	...	...	...	...	...	Peoples Drug Store	No	...	...		...
16½	17	27½	16½	65⅞	50	Sharp & Dohme	...	...	...		...
...	...	63⅜	54	65½	50	Sharp & Dohme pfd	No	777	...	a	0.88
65½	68	139⅜	62	243⅛	57	U. S. Ind. Alc	No	373	6.00	‡	5.30
...	...	89½	77½	...	...	pfd	...	...	...		...
2¼	3	7¼	2¼	13½	3	Vadsco Sales	No	971	...	*c	0.86
						NEW YORK CURB					
⅜	⅞	1⅛	⅜	7½	¾	Allison Drug Stores Class A	No	70	...	e	...
⅛	⅜	⅜	⅛	5⅛	⅛	Allison Drug Stores Class B	No	95	...	e	...
0	150	184½	140½	210	130	Ches. Mfg. Co	25	120	4.20	†	8.49
3¼	4⅜	8½	2⅜	57½	2	Davis Drug Stores Allot. Ctfs	...	...	...		...
3⅜	4	7¼	3¼	26½	3¼	Helena Rubenstein	No	289	...	‡	1.13
...	...	23	19	41½	17⅜	Heyden Chemical Corp	...	150	...	†	2.02
...	...	7⅜	6⅜	24½	6½	International Perfume Com	No	392	1.00	g	1.02
...	...	71	67	..	...	$6 Cum. Pfd	No	61	2.75	g	8.81
...	...	...	...	...	...	May Drug Stores	...	...	...		...
65	69	73	55⅛	67¼	40	Mead-Johnson	No	165	3.00	‡	3.30
1⅜	2	2⅜	2¼	12	1⅜	Nauheim Pharmacies Com	No	97	...	*	Nil
3½	6	6¼	3¼	32½	2	pfd	No	45	...	*	0.71
1⅛	1⅜	1⅜	1⅛	13	2	Neve Drug Stores, Com	No	170	...	h	...
21½	22	42	22	52	21⅛	Newport Co., Com	No	405	2.00	*	2.18
37	37	38	32	46½	29½	Northam Warren Corp. Pfd	No	50	3.00	g	10.35
32	33	42½	31	58¼	40½	Parke Davis & Co	No	4,770	1.00	†	1.73
7¼	8¼	23¼	4¼	24	10¼	Stein Cosmetics, Com	No	60	...	i	...
6½	7	9¼	6½	18	6½	Vick Financial Corp	10	750	...	j	...
32	34	61	30	107⅛	35⅛	Walgreen Co., Com	No	834	...	‡	1.63
14⅛	14⅞	21⅛	14⅛	44⅛	13	Zonite Products Corp	No	176	1.60	*	1.31
						CLEVELAND					
73	80	100	69½	80	60	Dow Chem. Co	...	...	...	..	...
...	...	...	...	...	...	pfd	No	25	1.60	..	...
28	30	32½	22	42	20	Miller Wholesale Drug Com	...	...	...	..	...
18¾	19	21	18¾	51	24	Weinberger Drug Com	No	30	2.00	..	...
						CHICAGO					
35⅞	36¼	46⅞	35	52	36	Abbott Laboratories	No	120	2.00	†	3.86
29	30	42¼	29	73	28⅜	Katz Drug Co., Com	100	100	2.00	..	...
1¼	1⅞	6	2	29¼	2	Lane Drug Co., Com VTC	No	95	...	g	0.92
...	...	...	...	32	14	Cum. pfd	No	65	2.00	g	3.00
						CINCINNATI					
12⅛	12⅝	18	12⅛	41⅛	16	Dow Drug Co	No	90	1.00	..	...
...	...	...	...	125	102	pfd	100	400	7.00	..	...
...	...	...	...	...	...	Standard Drug A'	...	...	...	..	...
						BALTIMORE					
31	31	33½	30	39⅜	25	Emerson's Bromo Seltzer	No	56	2.00	..	...
						UNLISTED					
...	...	...	...	...	...	Heyden Chemical Corp. pfd	...	...	...	..	...
70	80	...	...	...	...	Merck pfd	...	...	...	..	...
...	...	...	...	...	...	Noxzema Chem. Co	...	...	...	..	...
...	...	...	...	...	...	Squibb Com	...	...	...	..	...
...	...	...	...	...	...	pfd	...	...	...	..	...

† Yr. Dec. 31, '28.
* 9 mos. Sp. 30, '29.
‡ 6 mo Je, 30, '29.
a 8 mos. Au. 31, '29.
b 3 mos. Sp. 30, '29
c Before Fed. Tax.
d Yr. Je. 30, '29.
e None Reported.
f Incorporated in April, 1929
g 10 mos. Oct. 31, '29.
h Controlled by United Cigar Stores
i Incorporated in Dec., 1928.
j Affil. with Vick Chem. Co.

Abbott Laboratories, Chicago, report a gain in profits for the first five months of 1930 over the same period of 1929. Sales every month this year are in excess of 1929, excepting January. The regular quarterly dividend of 62½ cents, which was approved at a previous directors' meeting, will be payable July 1.

Alfred S. Burdick, President, states that an important chemical discovery, which will have a profound effect upon the administration of anesthetics in surgery, will be announced to the medical profession this month.

Drug Stock at New Low

Prices of common stocks of drug and cosmetic companies declined to a new low for the year during June, according to the index of the Standard Statistics Company, of New York. Some improvement is seen during the past week. A new low was also reached by the stocks of 337 industrials. Detailed figures on both indexes follow:

	1926 equals 100	
	Drugs and Cosmetics	*337 Industrials*
June 4	161.0	161.4
11	150.6	147.6
18	138.6	132.6
25	136.1	130.6
July 2	142.1	136.2
1930 High	174.7	174.1
Low	136.1	130.6
1929 High	260.6	218.9
Low	158.8	134.5

American Solvents Merger

American Solvents & Chemical Corp. announce that their business, together with the Rossville Commercial Alcohol Corp. and General Industrial Alcohol Corp. have been united and will hereafter be conducted as a single entity. American Solvents & Chemical Corp. will be the parent company. The industrial alcohol business of the three companies, except in California territory, will be carried on as a separate division by Rossville Commercial Alcohol Corp., a wholly owned subsidiary, while the chemical, molasses and other departments will be conducted by American Solvents & Chemical Corp.

The Dow Chemical Co. reports for year ended May 31, 1930, net profit of $2,782,017 after charges and taxes, equivalent after 7 per cent. preferred dividend requirements to $4.08 a share on 630,000 no-par shares of common stock. This compares with net profit of $2,437,000 in previous fiscal year, which, computed on above share basis, is equal to $3.53 a share.

Owens-Illinois Glass Co. have acquired the Berney-Bond Glass Co. of Pennsylvania through an exchange of 47,274 Owens-Illinois shares. At time application was made to list that amount of additional shares the value aggregated about $2,162,786.

Suntex Chemical Co. has been formed with headquarters at 620 South Delaware ave., Phila. The new company will manufacture Suntex bleach. I. M. Clough, formerly Eastern manager and a director of the Clorox Chemical Co., Oakland, Calif., is president, and H. L. Woodward, formerly assistant Eastern manager of the Clorox Co., is secretary and treasurer. F. A. Dougherty is vice-president.

QUALITY

PFIZER

ESTABLISHED 1849

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SODIUM CITRATE

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IRON CITRATES

Dependable Chemicals of Highest Purity

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UNIFORMITY

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Aromatic Essentials---all those products used in perfuming and flavoring.

Business Essentials---all those principles that you want your supplier to practise.

When you choose your supplier be sure he's right on both.

Neither you nor we are in business for today only. Everybody in our organization realizes that --- and we work accordingly.

Haebler, Inc.

What are the
Aromatic Essentials
we offer?

Aromatic Chemicals made in our own factory at Elizabeth, N. J. Also imported chemicals. Both are as pure as can be made.

Flavor Materials made in our factory. True fruit and artificial flavors of all popular types, but only one kind---*the best.*

Perfume Specialties comprising a vast number of attractive oils for every perfuming purpose.

Essential Oils in demand today are carried in stock. We are favorably placed in all those most generally used.

SEND US YOUR INQUIRIES

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180 No. Wacker Drive, Chicago
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42 Wellington Street, E., Toronto

Factory, Elizabeth, N. J.

"Yes, that bottle with the pretty top!"

Your package can build up extra sales with the help of . . . custom-made closures

"I'LL take that bottle," says the customer. Why does she point to the package that looks more distinguished than its shelf-neighbors? Because it has been *designed* to be an eye-catching unit—attractively harmonious in every detail. Bottle, contents, label, and closure have all been blended together.

One of the very important elements in a completely harmonious package is a closure that is right in every detail—size, shape, color, and design. Armstrong's Embossed Top Corks are just that—custom-made to exactly fit your package. They can have any shape, any color, any embossing. Your name or trade-mark can be an integral part of the package.

If you prefer, we'll study your package, recommend the just-right custom-made closure. This service is rendered to manufacturers who know the extra sales that fine-looking closures assure. These same manufacturers know, too, that they get absolutely leak-proof packages when they use Armstrong's Embossed Top Corks, for the sealing portion of every one is a genuine Armstrong Cork, guaranteed to be right.

If you want to teach your old package new tricks in the art of making sales, order Armstrong's Embossed Top Corks. These safe, custom-made seals are reasonable in cost, especially when bought in lots of 10,000 or more. We'll send you samples and prices on request. Armstrong Cork Company, 913 Arch Street, Lancaster, Pa.

Armstrong's EMBOSSED TOP Corks

Rosa Damascena---the red-flowered rose, shown alongside of Rosa Damascena Var Alba --- the white-flowered rose

Rose Bulgarian

By G. Karaivanoff

Chemical Engineer

II

THE distilling of roses in Bulgaria used to be effected with small alambics, or stills, some of which are still in operation. They are, however, disappearing, to be replaced by modern institutions, provided with huge stills, operated over an open fire, or steam equipment. Some of the distilling perfumers are also using the volatile solvents methods of to-day. With respect to the small stills, these are all practically confined to the growers who distil their own yields of flowers, and the number still in existence is estimated at 1,500 to 2,000. These growers are spread through the Brezovo and Kazanlik districts. These small stills are comprised of a copper kettle, with a capacity of 110 to 112 liters, placed upon a fire-grate made of bricks, equipped to burn wood. This kettle is covered with a head that fits exactly, and which is provided with a tubalature inclined 45° that connects with the refrigerant, or cooling agent. This latter device consists of a straight piece of pipe, about a meter and a half long, which passes into a wooden barrel filled with water that serves as the cooling agent. The old distilleries used to operate 10 to 15 alambics of this type under a hangar, which were known as "Gulpana."

In these stills are placed 12 to 15 kilograms of fresh flowers, with 80 to 100 liters of water, and then the distillation is begun. A hot fire is used at the beginning of the process, which is allowed to diminish in intensity as the distillation progresses. The operation lasts about an hour and a half. The distilled water is gathered up in bottles containing 4 to 5 liters, of three or four are filled from each batch. The still is then dismantled, or the head dismounted, and the contents of the kettle are placed in a wicker basket. The water, still hot, is utilized for another operation, and the exhausted flowers are thrown away. When about 40 liters of rose water has been secured, that product is subjected to a second distillation, this giving a single bottle, from which the desired oil is obtained. In the water which remains other flowers are placed, and the process is repeated as already described. By the use of this method one secures about one kilogram of oil from 2,600 to 3,000 kilograms of red roses, or double the amount for the white variety.

As already stated, this old system of doing things is gradually disappearing, giving way to more modern methods. Among the new establishments are counted 388 large open-fire stills, 27 steam stills and 24 in which the volatile solvents processes are used, 8 being rotative and 16 in batteries.

In the large open-fire stills a first distillation is made of the fresh flowers, and the rose oil so obtained is submitted to a second distillation in order to secure the oil. This second step is stopped when the liquid produced loses its characteristic taste and odor. The water which remains in the still is utilized to exhaust

new lots of flowers. Distillation of the roses carries over a period of 2½ to 3 hours, and the oil obtained is of a better quality than that secured by use of the old equipment, but the yield is less.

With respect to the steam stills, the process is practically the same as that of the large open-fire alambics, but the heat furnished by steam is more evenly regulated, thus avoiding wide variations in results attained. By means of a special preparatory step, these stills have been able to produce the oil during the first distillation. This oil is separated from the rose water, which is then submitted to a second distillation. These two products, that obtained from the first distillation and that from the second, are then mixed. In this way the yield is increased and the oil secured is more highly appreciated because of the fineness of its perfume.

The location of these large distilleries is as follows: 23 in the valley of the Strema (district of Karlovo); 13 in the valley of roses (district of Kazanlik); 5 in the district of Brezovo.

To give the reader an idea of the areas planted with rose trees, the yield and price of the oil, the following table has been compiled, giving the results attained during the last eleven years, taking 1916 as the starting point for the reason that it was the most important year from every point of view:

Year	Plantations in Hectare	Kilo. of Flowers Gathered	Kilo. of Flowers per Hecta	Kilo. of Oil obtained	Price of Flowers per Kilo. of Leva	Price of Oil per Kilo.
1916	8,928.80	11,436,030	1,280	3,528,870	0.20	
1919	7,089.10	5,236,600	738	1,492,300	0.60	13,350 leva
1920	6,357.00	5,442,700	856	1,088,730	4.00	15,000 "
1921	5,593.00	4,835,800	864	1,704,000	4.00	
1922	4,655.-	5,577,200	1,198	1,599,800	4.00	
1923	4,560.-	5,190,800	1,138	1,302,600	4.00	
1924	4,727.-	5,835,100	1,234	862,640	6 to 8	20,000 "
1925	4,905.-	4,933,200	1,005	1,521,070	8 " 16	
1926	4,899.60	6,388,974	1,303	1,248,000	12 " 14	50,000
1927	5,400.-	9,377,776	1,736	.....	12 " 16	
1928	5,413.80	4,829,000	892.	.....	12 " 16	69,000
1929	5,729.50	7,121,900	1,243.-	1,952,700	20 " 23	110,000 on $791

According to information secured by the writer, the capital invested in oil manufactories is about 103,-472,000 leva, or $744,000, approximately, this investment being divided as follows:

1.—Sites	5,203,000 leva	—$ 37,431.60
2.—Buildings	37,040,000 "	— 266,474.80
3.—Machines and equipment	61,229,000 "	— 440,496.40
Total	103,472,000 leva	—$744,402.80

The foregoing figures are interesting, and it should be said that they are increasing each year, for the reason that the primitive methods of distillation are being abandoned more and more.

Side by side with the progress being realized in the manufacturing processes is that with regard to the methods of control as applied to the oils produced. Formerly the rose oils were distinguished only by their odor and congealing point. To-day a scientific analysis is resorted to, and, for those clients desiring it, such an analysis is included with the sample submitted. The constants of pure oils are variables, depending upon the manufacturing methods used, origin of the roses, climatic conditions at harvest time, variety of flowers used. Because of these influencing conditions the constants can not be too strictly. limited. The average constants obtained by the writer after a large number of analyses vary within the following bounding lines:

Density	0.8700 to 0.8502
Congealing point	14°.6 to 23° Centigrade
Refraction	50° to 64°
Polarization	−1 to −4
Index of acid	0.60 to 3.2
Index of ether	7.2 to 11.3
Index of saponification	8.17 to 13.72
Free alcohol	64.62% to 81.52%
Total alcohol	66.13% to 83.52%
Index of acetyle	205.8 to 249.76

The following table gives the detailed results of analyses made of 22 different samples of pure rose oil:

Densities 30°C	No. of Samples	Congealing Point	No. of Samples	Index of Refraction	No. of Samples	Index of Polarization	No. of Samples	Index of Acids	No. of Samples	Index of Ether
0.8500 to 0.8550	3	14.6° to 15°	1	50 to 53	2	−0° to −1°	0	0.6 to 1	7	7 to 9
0.8550 to 0.8600	11	15° to 17°	8	53 to 56	6	−1° to −2°	8	1 to 2	11	9 to 11
0.8600 to 0.8650	4	17° to 19°	4	56 to 59	9	−2° to −3°	11	2 to 3	4	
0.8650 to 0.8700	4	19° to 21°	7	59 to 63	4	−3° to −4°	3	....	....	....
		21° to 23°	2	63 to 64	1	....	....	....	....	....

Densities 30°C	No. of Samples	Index of Saponification	No. of Samples	Index of Acetyle	No. of Samples	Free Alcohols %	No. of Samples	Total Alcohols %	No. of Samples
0.8500 to 0.8550	15	8 to 10	7	200 to 220	7	64 to 76	16	66 to 77	16
0.8550 to 0.8600	7	10 to 12	12	220 to 240	11	76 to 82	6	77 to 83.5	6
0.8600 to 0.8650	....	12 to 13	3	240 to 250	4	....	....	....	....
0.8650 to 0.8700	....	....	....	....	....	....	....	....	....
	....	....	....	....	....	....	....	....	....

For the year 1929 the figures were as follows:

Districts	No. Plantations	Hectares	Kilograms of Flowers Red	Kilograms of Flowers White	Picked Altogether	Kilograms Oil Obtained
Karlovo	43	3,100	3,815,495	306,158	4,121,653	1,050
Kazanlik	35	1,456	.....	.....	1,747,506	528
Brezovo	13	1,135	1,052,012	169,800	1,221,812	365,800
Stara Zagora	4	338	27,076	3,772	30,848	9,900
Total	95	5,729			7,121,819	1,952,700

The results obtained, as given above, were secured in the chemical laboratory for research (agronomic) at Sofia in working with absolutely pure rose oils. Analyses of so-called commercial rose oils show greater variations in the indexes cited, due to the different methods of distillation used.

Generally speaking, it may be said that if the constants vary greatly from those indicated in the above tables falsification, or adulteration, has been practised. This practice is common enough, for the reason that the price of pure rose oil is so high.

When pure rose oil presents itself in the form of a dense liquid, light yellow to almost green in color, the color becoming darker with age. During a lowering of the ambient temperature, crystals of stearoptene, shining and rainbow-colored, come to the surface. At low temperatures the oil solidifies completely, forming a soft mass.

Because of the presence of stearoptene and terpenes, rose oil is not readily soluble in alcohol, resulting in turbid solutions, even with an alcohol of 90°. The liquid part of the oil, called oleoptene, gives a limpid solution with an alcohol of 90°. Rose oil right after distillation has a slightly acrid odor, and it does not acquire its fine odor until a period of about 6 months has been passed. As it ages from that time on the oil develops an increase in indexes of ether and acid.

Bulgarian rose oil, in view of the large amount produced, is not absorbed by the country of origin, resulting in substantial export figures. The countries taking the bulk of the Bulgarian rose on the market are: France, United States, England and Germany.

Below is a table of Bulgarian rose oil exports, by countries, for the years 1910 to 1929:

Countries	*1910*	*1911*	*1912*	*1913*	*1914*	*1915*	*1916*	*1917*	*1918*	*1919*	*1920*	*1921*	*1922*	*1923*	*1924*	*1925*	*1926*	*1927*	*1928*	*1929*
Autriclse	....	....	....	....	....	....	....	....	....	1	....	24	12	22	1	40	....	....	....	3
Hongrie	12	5	13	3	17	10	47	307	48	....	....	....	0,030	....	....	....	....	....	....	1
Tckecoslovaquie	....	....	....	....	....	....	....	....	....	....	....	5	....	2	1	2	....	....	....	3
Angleterre	734	572	533	341	659	705	....	....	....	3	387	517	195	230	68	156	188	176	177	100
Allemagne	1185	1594	....	....	....	....	....	....	....	....	....	....	....	....	....	....	311	205	174	129
Belgique	....	3	3	2	3	....	....	....	....	....	....	0,20	1	3	5	6	....	....	....	1
Grece	....	0,475	0,100	....	....	0,020	....	....	....	....	....	....	0,050	....	....	....	....	....	....	1
Danemarck	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	5	....	....	....	1
Espaopue	....	....	....	....	....	....	....	....	....	....	....	10	....	5	....	8	....	....	....	1
Italie	31	17	9	13	26	59	....	....	....	53	....	....	3	13	0,375	13	13	10	29	4
Norvege	....	....	....	....	....	....	....	....	53	....	....	....	....	....	....	....	....	....	....	1
Pologue	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	5	....	....	....	1
Roumanie	....	....	1,050	....	0,150	1	2	....	50	....	....	....	6	....	5	....	....	....	....	1
Russie	180	153	134	177	132	353	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Etats-Unis d' Am	640	525	576	207	980	1,303	....	....	....	1179	806	292	924	1606	623	415	569	228	353	113
Turquie	99	4	25	3	0,270	....	0,255	10	....	27	2	8	1	....	....	1	....	....	....	11
France	1686	1483	1707	989	1137	1343	....	....	....	280	2518	839	1340	1427	2485	1183	1309	1570	2035	729
Hollande	....	4	1	2	1	....	16	....	....	....	....	8	31	42	20	29	3,51	51	0,106	1
Suisse	....	81	146	117	35	1227	1470	1132	363	65	67	....	30	103	74	153	584	149	352	56
Suede	....	0,250	2	....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	....	1
Autres e tats	116	89	....	....	0,080	....	....	....	....	....	10	2	1	6	28	3	....	....	....	1

It is sincerely hoped that the readers of DRUG MARKETS have been given a fairly complete picture of the production of rose oil in Bulgaria. The valley of roses is one of the most highly valued regions in our little country, and we have only one desire: to better each year the culture of the Bulgarian type of rose, and to produce the most delicate, finest essential oil procurable in the world.

Vapex Registration Denial Confirmed

Vick Chemical Co., subsidiary of Drug, Inc., has been sustained by the Commissioner of Patents in its opposition to the application of Thomas Keerfoot & Co., Ltd., to register the trade-mark Vapex with a green triangle directly below it. This decision of the Commissioner of Patents confirms the decision of Examiner of Interferences of the Patent Office from which decision Keerfoot appealed. Keerfoot can still use the trade-mark "Vapex" which was granted registration on March 18, 1924.

Registration of a trademark, "Molo," on mouthwash and antiseptics has been denied to Morris Max Horowitz by a decision of the United States Court of Customs and Patent Appeals reversing the Commissioner of Patents who had overruled the opposition of Annie M. Malone, doing business as the Poro College, St. Louis. The mark "Molo" was held to be confusing with the mark "Poro" used on a line of hair and toilet goods used in beauty culture.

The trademark "Vitamineral" used by the Vitamineral Products Co., on a medicinal preparation fed to poultry has been upheld in its opposition to the granting of registry to George A. Rostetter, doing business as the Rostetter Laboratories, to use the trademark "Minero-Vi-Tone" on a preparation in the form of a powder to be used for similar purposes.

New England Collapsible Tube Company announce the removal of their offices to 370 Lexington ave., New York. Larger quarters are occupied at this location and a cordial invitation is extended to all friends to visit them.

The Harshaw Chemical Co. has recently constructed and occupied a new building at Philadelphia for warehouse and office purposes. This new construction, together with the alteration of existing buildings increases the warehouse facilities by more than 100 per cent., giving a total of 39,000 sq. ft. for such purposes.

The Philadelphia plant takes up a full city block in the southeast section of the city near tidewater. The principal manufacturing activity at the Philadelphia plant is the refining of Glycerine. There are also manufactured precipitated resinates of cobalt, lead, manganese, zinc and other metallic soaps, and stearates of aluminum, zinc, calcium, magnesium, etc. The operations include an ore grinding plant.

The McPherrin Products Co., Des Moines, has been organized by John W. McPherrin, formerly vice president and sales director of the Chamberlain Medicine Co. before that company was sold to W. R. Warner & Co. The purpose of this new company is to acquire several drug products. Shavolene, a no-brush, no lather shaving cream that has been on the market about four years, is to be acquired. It was formerly marketed by the international Chemical Co. of Chicago.

The United States Patent Office has refused Ybry, Inc., New York, permission to register "Les Bourgeous" as a trademark for toilet goods because of the prior registration of "Bourjois" by the International Perfume Co., New York. The Commissioner of Patents held that the two terms are deceptively similar.

THE REALIZATION OF AN IDEAL

It is warmly satisfying to know that the Absolute Floral Essences we have made in France during the past five years have met with the highest respect of leading factors in our domestic industry. Such approbation has vindicated our belief that there is a market here for the best.

From its inception this enterprise has been guided by the ideal of making available to the American perfumer the best floral extracts possible of production. The success attendant upon their introduction in this country made necessary a factory of our own.

Our guarantee of quality buttressed by sixty years of dependable merchandising adds emphasis to the fact that making and selling our own floral Essences by ourselves involves only one profit.

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Sole Agents in the United States and Canada for

SCHIMMEL & COMPANY, Miltitz (near Leipzig) Germany

Let Us

Perfume Ourselves*

A PERFUME, according to the origin and meaning of this word, represents odorous fumes of burning substance; sweet smell; fluid containing essential oil of flowers, etc.; scent. The use of perfumes goes back to ancient times. Incense was prescribed by the book of Zoroaster, as well as by the Vedas, or ancient Hindu scriptures written in old form of Sanskrit. The Song of Songs, when speaking of the Well-Beloved, makes frequent mention of perfumes, and the Egyptians, from the time of the Ptolemies, were constant users of perfumed ointments and creams. The manufactories of Alexandria distilled, throughout the year, such precious products that, in order to prevent theft, the workers were required to work wholly in the nude.

Cleopatra seduced Mark Antony by means of perfumes, with which she was anointed. The secret had been revealed to her by an adroit chemist, who, according to the customs of the times, was put to death, so that Cleopatra could conserve a monopoly of this wonderful discovery. It is further stated by Plinet Gallien that Cleopatra invented a pomade made of bear grease, which refined the skin, cleared the complexion, and gave to the epidermis, or cuticle, the softness and perfume of the red rose.

Perfumes from Antiquity

Perfumes mingle with all history and antiquity. Hippocrates saved Athens from the plague with pyres of odoriferous woods. Solon the sage and wise legislator, and Socrates, the other sage, brought suspicion upon themselves as being subject to all possible vices, because the abuse of perfumes excited their hearts. The courtesans were careful to spread above their doors garlands of roses. This custom has, of course, seen a change.

Later, Poppaea, the unhappy deceived wife, tried to regain the favors of her unworthy master by inventing the so-called "masque au mari", or husband's mask, the recipe for which might prove useful in similar circumstances.

Rye flour paste, or dough, thinned out with oil perfumed with benzoin. Keep the preparation on the face all day. In the evening wash your face with milk and retire. All you have to do is wait.

In France, the Crusades brought us, among many other things, perfumes. The Arabs, the Venetians and the Genoese brought the musk and ambers from the distant Orient.

Under Catherine de Médicis, René le Florentin kept shop under the bridge *au Change* and his beautiful clients could buy there for their husbands perfumes or poisons.

The Gascon Henry IV, who washed himself in a glass of water, forbade the use of perfumes and Italy carried back its cosmetics.

For Buckingham, Anne of Austria reestablished the mode of bergamot.

The court of Louis XIV needed perfumes, if one is to accept the testimony of Saint-Simon, who deplored the odors of Versailles and the lack of comfort. After the Revolution, a certain woman refugee, passing by a certain place, said, in holding her nose: "Oh! that smells like the old régime." In those days they did not fear the strong odors: musk, benzoin, lavender.

Various Odors Chosen

The Revolution brought us back to antiquity. The beautiful Madame Tallien used nothing except the neo-Roman perfumes: myrrh, nard, rose. And the créole Josephine established the fashion for vetiver, sandalwood and benzoin.

All women can not stand, from their birth, the smell of lard, incense and tar, like the negress of Baudelaire. In fact, each one of us has our own particular odor, and our sense of smell, that is uncultivated sense, serves us badly.

The Chinese, endowed with a fine sense of smell, say that the Europeans carry odor of a corpse. Europeans, for their part, and in exchange, say that the Chinese smell like something difficult to mention above a whisper.

The saints smell like flowers all their lives, and even more so after death, it is said. This was not the opinion held by the great Saint Theresa, who said that "woman is an ignoble animal and has a bad odor." She even said it in stronger terms than this.

Let us perfume ourselves, therefore, with the aid of those oils bearing such wonderful names, names which practically trace a line of conduct.

Each woman should have her own perfume, or odor. Some smell only like naphthaline, which is, first of all, disagreeable, and, second, whenever you meet with the odor of naphthaline one thinks of them.

*Translated from l'Intransigeant.

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tone of Opoponax
Combines well with the Neroli and
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Chicago Office
605 W. Washington Boulevard

The Javanese song says of the well-beloved: "She is so well perfumed with different oils that one can no longer distinguish any particular odor."

Mixtures of perfumes demand delicate manipulation, and one could classify them by number like the chemical preparations from which they originate.

Simple flower perfumes are for young girls.

Each type of woman corresponds to her type of perfume:

Vegetal oils are for blonds.

Amber and musk are for brunettes.

In the foregoing roughly drawn classifications one can, of course, find refinements and exceptions, for no definite, hard and fast rules can be established.

An Old Number

WE READ with interest in the "Old Fashioned Number" of the "Phoenix Flame"— and the "Old Fashioned Number" is a very clever idea still more cleverly executed—of Toilet Preparations as advertised in 1870. The short article illustrates an advertisement for Magnolia Balm. Don Higdon, Phoenix-Hermetic Company, editor of this interestingly unique little house organ which carries the message of the house to its customers, asks if any one remembers Magnolia Balm and also asks the fate of this popular beauty aid.

We wish to inform those interested that Magnolia Balm is still manufactured by Lyon Manufacturing Company located at 45 South Fifth street, Brooklyn, N. Y., for the last forty years. Lyons Company states that the Balm is still advertised in almanacs and rural newspapers to some extent and that it finds its principal sale in the South and the West.

The Lyons Company's product main is Mexican Mustang Linament. This product and the Balm were taken over from Demas Barnes & Company forty years ago. Demas Barnes & Company had manufactured the products since their introduction.

The opal bottle illustrated here was replaced by one of flint glass in 1905, and a new label was adopted in 1919. The product has further been modernized by being completely enclosed in a wrapper of transparent cellulose.

The advertising of forty years ago, some of which is in our possession, is extremely interesting. "Redness, Pimples, Blotches, Sunburn, Freckles, and Tan, all dispelled immediately by using Magnolia Balm" reads the pamphlet, which continues, "Applied to the Neck, Arms and Hands, it gives an appearance of Graceful rotundity, a Pearly, blooming purity, which is ever the admiration of the opposite sex. When used upon the person it exhales a subdued and delightful fragrance, suggesting Pure habits and a Cultivated taste.

"It makes a lady of thirty appear but twenty; and so natural, gradual and perfect are its effects that no person can detect its application."

Scientific Filter Co., 1 Franklin Sq., New York, have just issued a new circular covering their unique disk filter. This is a pressure type of filter which may also be utilized as a gravity machine. The filtering medium consists of extra thick, compressed asbestos disks which are furnished in different qualities to meet individual needs. The filter itself can be secured in sizes employing 4 to 110 disks. Each machine is so arranged as to permit operation with only two disks, or more, if only a small amount of liquid is to be filtered. With this type of filter the liquid comes clear at once without having to return the first run.

A. T. Frascati has been added to the research staff of Ungerer & Co. in the capacity of perfume chemist. Mr. Frascati is a graduate of Syracuse University and is very well known to the trade for his research work in the toilet preparation field. For the past several years he has been identified prominently with the perfume and cosmetic fields in New York, his work including extensive research in cosmetic preparations, originating formulas and compounding perfumes.

H. S. Richardson, chairman of Vick Chemical Company, was elected a member of the Board of Directors of Drug, Inc., held July 2.

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AND CREAMS . . .

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UNGERER & COMPANY

15 West 20th St. New York, N. Y.

Market Facts From Grasse

¶ *Storms do Great Damage*

¶ Rose Crop Less than Third Normal

¶ *Orange Flowers Half Normal*

¶ Clary Sage Supply Larger

By O. C. Zilisch
Our Grasse Correspondent

UP TO the present time the summer season as such has not been very favorable in the Grasse region. The heat has been satisfactory, but a number of very violent storms have come in to upset the usual balance at this time of the year. In fact, this storm tendency has been prevalent all over France, generally speaking, doing a great deal of damage to crops in sections like Grasse, where the vegetation has suffered considerably.

The gathering time for the May roses ended about the middle of June with a deficient crop, as announced in the reports of the past several months. Final reports are to the effect that the year's yield was considerably below normal, not reaching, in a number of instances, more than one-third. This is very striking, in view of the fact that the crop of roses for last year was exceptionally good, despite the adverse weather conditions of the previous winter months. As already reported, the price for this year to the growers was stabilized at 3 francs 50 centimes (14 cents), as compared with 5 francs 35 centimes (21½ cents) last year. Certain distilling perfumers are said to have paid as low as 2 francs (8 cents) per kilogram at the beginning of the gathering time, which threw disappointment and discontentment into the ranks of the growers, who saw their entire work going unrepaid. Even the price of 3 francs 50 centimes is not considered sufficient to cover the grower for his time and labor, not to say the legitimate profit he is entitled to. Fear continues that the rose plantations, due to the low price of this year, will suffer a very great deal, indicating that the crop for next year will fall below that of this, unless something drastic is done to save the situation.

Yield of Rose Oil Satisfactory

The yield of rose oil per kilogram is generally regarded as having been satisfactory, which was not the case with the orange flowers, due to the wet weather and lack of sun, so necessary to the proper development of the orange flower.

Gathering of the orange flower terminated at about the same time as that for the May rose, with a crop about half of the normal. The yield was much more satisfactory than that for the rose. Prices were maintained to the growers on the basis of 10 francs 60 centimes ($.424 cents) per kilogram, considered satisfactory to the growers, although the price should not, for the good of the culture, drop below this level. A number of growers in the privileged districts like St. Laurent-du-Var, Bar-sur-Loup, for example, realized highly satisfactory profits this year, as the yield in these districts, was hardly affected by the damage of the cold spells during the winter of 1928-29. Although there is some complaint on the part of the distilling perfumers with respect to the low neroli yield, the oil itself is said to be of excellent quality. Prices have, as was indicated, taken a downward trend, relieving the situation that had existed ever since the winter of 1928-29. Just how far the prices for neroli and other orange flower products will descend it is not possible to say, this depending entirely upon conditions which develop during the year among the manufacturing perfumers.

Jasmin plantations have suffered a delay in development, due to weather conditions. This situation is not serious, however, and can very easily be remedied by a period of favorable weather, particularly warm weather of the kind required for the jasmin plant. Generally speaking, the jasmin appears to have been somewhat neglected. In fact, a number of plantations have been destroyed, in order to make room for other cultures thought more profitable to the grower.

Those close to the soil in the Grasse region are very emphatic in their statement that the jasmin is passing through a crisis this year, with the result that the yield is sure to be below that of last year, although it is still too early in the season to give any figures. It is hoped by the growers that the price paid this year will not go too low, as has already been predicted. This disappointment, falling right in line after that with regard to the rose, would, without doubt, help to create a situation that is not desired. Jasmin plantations form a large part of the cultural activities of Grasse and the surrounding region, and whenever anything occurs to upset these activities the entire trade feels the repercussion.

Picking Jasmin Flower a Delicate Operation

The price paid to the growers of jasmin last season was 15 francs (60 cents), two francs below the price paid per kilogram in 1928, and the level reached last year was considered as low as it could possibly go, if the growers were to make at least a decent profit from their effort and investment.

With the possibilities of even a lower price this year than 15 francs per kilogram comes the discouraging fact that women for the gathering period are very hard to secure. This situation has existed now for a number of years, and the condition is, apparently, getting worse as time goes on. Picking of the jasmin flower is a delicate thing, at best, and labor that does not understand the work can easily cause a yield to suffer with respect to final figures.

In 1914 the growers received about 2 francs 50 centimes to 3 francs per kilogram for the jasmin, and the gathering was done for 40 to 50 centimes. At the present time it costs the grower 5 to 6 francs per kilogram to gather the jasmin flower. In fact, these latter prices have gone beyond even the 6-franc limit during the past several years, making it very difficult for the grower to do anything more than just come out even, if that.

The jasmin crisis, therefore, if for no other reason than that based on the difficulty of securing competent help, would appear to be approaching an undesirable peak for every one concerned. Many interested in the situation are doing everything they possibly can to ward off the tendency of abandoning this, one of the basic, cultures in the Grasse region.

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The tuberose plantations have, as pointed out in previous reports, decreased in an alarming manner, particularly when this culture is viewed in the light of what it used to represent to the Grasse section. Demand for the oil of tuberose has decreased in such a way as to make it almost unprofitable to raise this flower. It is hoped that a sudden change in the demands of the manufacturing perfumers will make its appearance, in order to give a little more life to this once very popular essential oil. Prices at the present writing are not available. Last year the price paid to the growers was 13 francs (52 cents) per kilogram, and those concerned are sincerely hoping that it will not go below that.

In the mountain regions the lavender is beginning to bloom, and the vegetation is showing normal development. Some of the more favored sections are reporting an excellent set of conditions, allowing for the prediction that the lavender yield for this year will be a very good one, even abundant.

Nothing definite can be said with regard to prices on lavender oil, due to the still unsettled condition, comparatively speaking, of the entire lavender oil situation. Just a short while ago the situation brightened, but there are still large stocks of lavender oil which can be drawn upon. If this season's yield turns out to be as large as predicted there is a great likelihood of producing big stocks of lavender oil that will remain stationary for some time

The growers are, of course, watching this situation very closely, as it affects them vitally.

Development of the rose geranium, as well as the mint, is proceeding along normal lines, although it must be said that both these cultures are gradually losing the important place they used to hold in the Grasse region several years ago.

Among the flowers of secondary importance are the broom and the carnation, both of which are being gathered at the present time. The price paid for these cultures, delivered to the distilling perfumers' places of business, is 1 franc (4 cents) per kilogram.

Prices will, of course, be affected if there is no relief available, as a decided lowering in the yield yearly is inevitable, should the conditions described continue over a long enough period.

Clary sage has shown satisfactory results practically throughout the entire region, and, as has been signalled from time to time, a number of new plantations were placed this season, bringing onto the market a considerable amount of clary sage. Prices for the oil have, as the trade knows, been seeing comparatively low levels, the demand for this particular oil not having shown any great amount of activity. When the general situation brightened some time ago, in connection with the raising of clary sage, a large number of growers immediately became interested. As a result, there is absolutely no lack of plantations at the present time.

"Mazon" vs. Pheno-Cosan

Belmont Laboratories, Inc., a Corporation, vs. Stuart H. Heist and Whitney-Payne Laboratory, Inc., a Corporation. In October, 1929, Judge Taulane of the Court of Common Pleas No. 1 of Philadelphia County, handed down an adjudication in which he found as a fact that the preparation which the defendants were manufacturing under the name Pheno-Cosan was an unlawful infringement upon the plaintiff's rights in the formula for Mazon. Judge Taulane further held that Belmont Laboratories, Inc., was entitled to an injunction restraining the defendant from compounding, advertising or selling the preparation known as Pheno-Cosan, and was also entitled to an accounting from the defendants of all profits which they had made out of the manufacture and sale of Pheno-Cosan. The product in question is used for the treatment of eczema and other skin diseases.

The Literature Says:-

(Continued from page 46)

this oil is soluble in 1.1 volumes of alcohol at 20° C. Contained 53 per cent. cineol. Tests on the effect of the ultra-violet ray gave the following results:—at the end of one hour the color of 20 cc. of the oil was equivalent to that of 18 cc. of the original oil; at the end of 7 hours to the color of 9 cc. of the original oil; at the end of 14 hours to 2 cc. of the original oil. At the end of 21 hours decolorization was complete. The conclusion was also reached that the color of the lavender oil which persists after the ultra violet ray treatment is due to the presence of oxygenated products. A. Quilico, "Rivista Italiana Essenze Prof.," volume 10, pages 148ff.

Citronellal and Derivatives

The establishment of methods which can be used for analyzing and controlling the strength of citronellal depend on the use of the aldehyde in the pure state as a standard. The standardization of the purity of the aldehyde is therefore an important matter. It is very difficult to obtain citronellal in the pure state due to various reasons. The principal one of these is the easy cyclization of cintronellal into different products, particularly isopulegol. Citronellal is converted into the latter compound, the more easily, the greater its purity. It appears to be stable in dilute form in an inert solvent and is less changed in an alkaline than in an acid medium. Another cause of the conversion of the aldehyde is its easy oxidation under the influence of air and light.

It is known that purification of citronellal by fractional distillation does not give the desired results, no matter how carefully this is accomplished. Better results are obtained by converting citronellal into its sodium bisulphite addition product. This is a solid. The original article contains a complete description of the characteristics of the products purified under these conditions as well as of the following derivatives of citronellal:—the acetate, the diacetate, citronellyl-oxime, the nitrile, the amide, the semicarbazone. Glichitch and Naves, "Les Parfums de France," 1929.

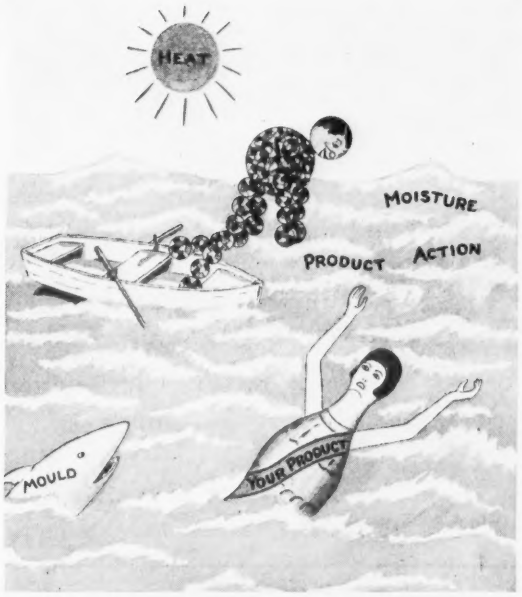
Perfumes Derived from Oil of Turpentine

Of all the perfumes which are derived from oil of turpentine the most important is terpineol, which is largely used in the perfume and soap industries as well as in the preparation of many artificial perfumes. Terpenyl acetate is obtained by esterifying terpineol. This esterification is usually accomplished by means of acetic anhydride under well defined conditions of temperature and pressure, and sometimes in the presence of diluents such as xylene and the like. The product that is obtained in this manner may have a density of 0.995 to 0.960, a boiling point of 95° to 100° C. under a pressure of 5 to 10 mm. and an index of refraction of light of 1.465. This ester is the principal constituent of a large number of artificial essential oils.

Terpenyl formate has an odor similar to that of the acetate, but somewhat finer and it is therefore perferred for certain purposes. However, it is less used due to its higher price. Bornyl acetate is obtained by acetylation of borneol constituting one of the intermediate stages in the manufacture of camphor from pinene. Limonene is obtained by isomerization of oil of turpentine. The commercial product is not in reality pure limonene, but contains its isomer, dipentene, and in addition to the latter several hydrocarbons which are modifications of pinene. Limonene is used largely to-day in the place of oil of lemon, as its odor resembles that of the latter to a marked degree. M. Mourier, Bulletin de l'Institut du Pin," 1929, Number 56.

Laurel Fat

The fat was extracted from the fruit, which had first been carefully freed from shells. The extraction medium was light petroleum. The fat was obtained in the form of a clear, yellow, buttery mass. The following constants were determined both in the case of the crude fat and the purified fat. Purification of the fat consisted in freeing it from essential oils. This was accomplished by means of steam distillation. The various analytical



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values for the purified and crude fats are given below, the former in parentheses:—acid coefficient 5.31 (6.06), saponification number 210.85 (21.9.6), iodine number (Huebl) 67.94 (65.7) apparent acetyl number 15.27, unsaponifiable matter (5.0 per cent), insoluble fatty acids (84.69 per cent.), angle of rotation of light at 15 degrees C. +11.21 degrees (+8.43 degrees).

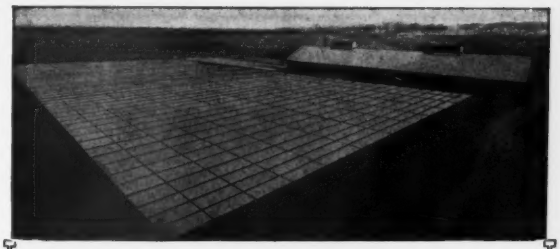
The fatty acids obtained from the fat were analyzed and the following results were obtained. Distillation gave 58.5 per cent. of liquid fatty acids of molecular weight 306 and 37.5 per cent. of solid fatty acids of molecular weight 228.7 and melting point 38.5 to 39.0 degrees C. The Twitchell method was used in this analysis. It was also found that the liquid fatty acids contained both oleic acid and linoleic acid as well as a higher member of the series. An analysis was also made of the unsaponifiable matter in the laurel fat, and this was determined to consist of phytosterol, melissyl alcohol, laurane and a liquid portion. An interesting result was the isolation of an optically active constituent, which had the following formula:—$C_{22}H_{30}O_4$. This substance was obtained from the crude fat by fractional cystallization with the aid of alcohol at temperatures which varied from -15 degrees C. to -50 degrees C. It was found that this substance loses water at a temperature of 103 to 104 degrees C. and that when it is heated to a temperature of 230 to 250 degrees C, it blackens. Its angle of light rotation is at 15 degrees C. equal to +137.65 degrees,. when dissolved in alcohol. The iodine number (Huebl) is 111.3. The substance is very unstable in solution. The angle of light rotation of the essential oil is at 15 degrees C, -20.02 degrees. G. Wallrabe, "Arch. Pharm.," 1929, volume 267, pages 405-412.

Strophanthus Oil

The fact that only one double linking of acids and glycerides containing two ethylenic linkings is saturated by thiocyanic acid has been employed to deduce for strophanthus oil the composition: saturated acids 25 to 27 per cent., oleic acid 44 to 48 per cent., and linoleic acid 25 to 30 per cent. Examination of chalmoogra oil, hydrocarpus oil and gorli fat (from the seends of Oncoba echinata) by the same method indicates that no acid of the linoleic acid series is present. E. I. van Itallie, Pharm. Weekblad, 1929, volume 66, pages 677 to 683.

Charles Allen Loring has purchased a substantial stock interest in the firm of Gilman Brothers, Inc., wholesale druggists, Boston, and has been elected vice-president and treasurer of that company. Mr. Loring is secretary of the North American Dye Corp., Mount Vernon, and although he will retain his stock interest in this corporation, it is expected he will devote his entire time in future to the Gilman interests.

Mr. Loring is a registered pharmacist and is well known in drug circles being a member of the Drug and Chemical Club on whose board of governors he has served for many years.



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Dr. Wiley Dies

Dr. Harvey Washington Wiley, a leader for almost fifty years in the campaign for pure foods and drugs in the United States, died in Washington June 30. He was eighty-six years old. Death was due to heart disease.

Dr. Wiley was credited with the chief responsibility for the passage of the Federal Pure Food and Drugs Act. He was head chemist for the D3partment of Agriculture, fighting for pure foods for twenty-nine years. His term in the Federal laboratory was a stormy one, demanding repeated action from the President himself and ending only with Dr. Wiley's resignation after he was exonerated by President Taft of charges of irregularity in his last campaign. Since leaving Federal employ in 1911, he was director of the bureau of foods, sanitation and health, conducted in the "Good Housekeeping" magazine.

Konjola, Inc., Cincinnati, announce that Ray Huber was elevated to the position of general sales manager, having in complete charge the distribution of Konjola products in 26 states. Mr. Huber worked up from the position of demonstrator. One of his notable successes was the introduction of Konjola to the greater New York area. Konjola sales have reached seven million bottles in the past two years.

Stephen G. Porter, Representative from Pittsburgh, and author of the recently enacted amendment to the narcotic laws, died June 27. He was sixty-one years old.

The Ten Cent Package

(Continued from page 38)

"During the last six months a certain organization undertook to place a ten cent counter in drug stores in certain key locations, the druggist working on a percentage basis. This firm has quit business.

"One of the most plausible reasons why the druggists in large numbers are considering installing ten cent counters is that there will not be price-cutting on these sizes and therefore, with more rapid turnover, the profit on each item will be more, probably, than on a larger unit—say a fifty cent article cut through competition to 39 cents or less.

"Ten cent items are already being cut to nine, eight or seven cents. We know a great store that cuts prices on these items regularly."

And so on.

Other manufacturers have expressed the thought that the ten cent package is a fine thing for anyone wishing to break into a market. Such manufacturers are prepared to carry the burden of these packages from the standpoint of sampling which they badly need.

Other opinions arrived too late for this issue. These letters are all along the lines indicated by the views quoted above. We believe that the ten cent package campaign has been one of trumpets and flare which has attracted many people who have not given the matter enough mature thought. The impression was being created that every one was in favor of it and that manufacturers must jump aboard or fail to follow the march of progress. But such does not seem to be the case.

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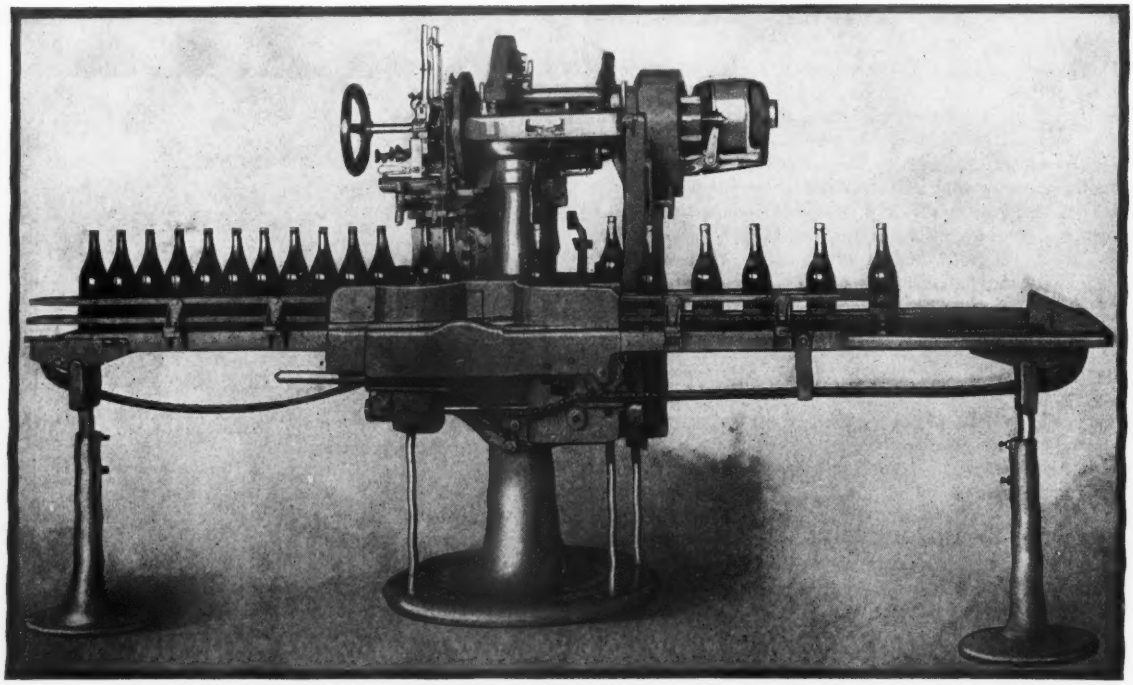
WORLD AUTOMATIC ROTARY LABELER



The World Automatic Rotary Labeler efficiently meets the high production required in large plants.

The machine applies body and neck labels and foil in one operation to pint, split or quart bottles. It is made for labeling bottles or jars of various types from two-ounce to one-quart size, and several sizes can be labeled on the same machine.

One of the many outstanding advantages of the World Automatic Rotary Labeler is that all parts are easily accessible.

These machines are so well built that many of them are now in satisfactory operation after constant daily use many years.

World Automatic Rotary Labeler positively reduces labeling costs to the minimum.

ECONOMIC MACHINERY COMPANY

Largest Manufacturers of Labeling Machines in the World

WORCESTER, MASS., U. S. A.

WORLD LABELERS

Making Creams and Ointments

There are many ways of simplifying the handling and mixing of the many ingredients that go into the manufacture of these two commonly made products. Check your methods and see if you are using all the tricks that Mr. Chilson suggests.

THE manufacture of creams is divisible into three major operations:—melting, mixing and filling. While the entire process is relatively simple, there are many little kinks which may cause trouble, but innumerable devices are available for the simplification of procedure and avoidance of trouble. With these, this article will attempt to deal.

Many manufacturers throw all the ingredients which go into a batch of cream into the melting kettles at the same time. This procedure, while time honored, is not economical for the reason that nothing is gained by heating oils and petrolatum up to the high melting points of the waxes. The most effective method, therefore, is to weigh out and throw into the kettles, the waxes of the highest melting points first, then add waxes of lower melting points and finally, lanolin, if used, petrolatum and oil. To decrease further the melting time of a batch it is advisable to use a wax crusher to reduce the slabs of wax to minute sizes. If however, the volume of production does not warrant a special machine of this nature, recourse may be had to a chopping box and an ordinary ice chopper. The box should be of hardwood, constructed with a slide-end which can be removed and the box tilted to empty it when the wax is chopped.

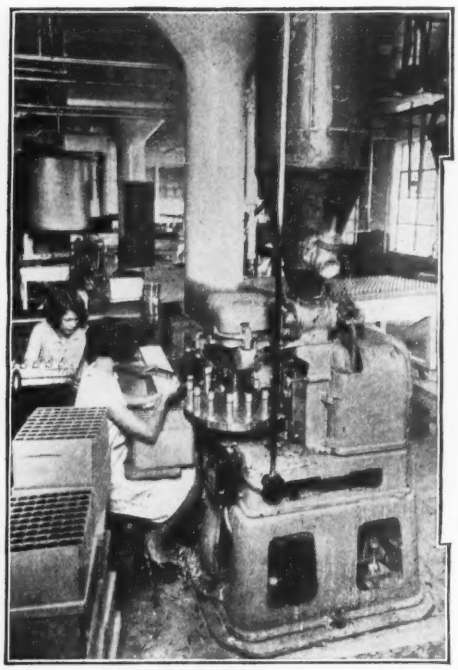
When lanolin is used, as in tissue creams, the quantity required is so small, usually not more than five per cent., that the methods for removing petrolatum from barrels and drums cannot be applied to it efficiently. Lanolin—I am not speaking particularly of anhydrous—is a cantankerous substance: it won't pour, break off or crumble, nor will it slide out of a barrel even if up-ended. It is tough and extremely viscuous. Usually, it is carved out of the barrel with a large spatula. This method is entirely too slow. A useful device for handling lanolin quickly is found in the common post-hole digger. The handle of this should be cut off and turned down to a convenient length and thickness. Then, if it is put into the melting kettle the instant steam is turned on, it will become hot and thus enable the operator to scoop out and weigh off the required amount of lanolin without any trouble. The form of the post-hole digger, being round, is ideally adapted for scraping the sides and bottom of the barrel. In passing it might be well to mention that since lanolin smells—to put it mildly—and since every barrel seems to smell worse than the previous one, it is good practice to boil it before use. This cuts down the odor which often causes trouble by coming through the perfume.

To handle petrolatum conveniently and at the same time to prevent the seepage common to so many cream rooms, it is economy to buy it in steel drums. The petrolatum may be removed from these drums in several ways. If production is large, the amount of petrolatum required for the subsequent day's production may, if one is available, be stored in a hot room. All that is necessary then is to remove the head or the bung and pour it out. If a hot room is not available, an effective device is a half-inch copper coil attached to a flexible steam hose which, thrust into the drum after the head has been removed, will melt the petrolatum in a very short time.

(Continued on page 73)

This STOKES Tube Filler

Saved One User $2500 *the first year!*



The new STOKES Automatic Tube Filling, Closing, Clip-making and Attaching Machine (patented). At left—the machine in use in the plant of a nationally known manufacturer.

. . . And that's not all

This user wrote us..."We find our saving was $2500 a year. This does not include, of course, the labor that enters into the operation of filling, clipping, and crimping the various tubes. Before we had the automatic machine, *we used three operators and sometimes four* to produce approximately 18,000 tubes a day, whereas at the present time *we use one operator* to produce the same quantity.

"The saving of $2500 a year was the difference in cost between the clips purchased ready-formed and the nickel ribbon as we use it on your machine."

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PHARMACEUTICAL EQUIPMENT

- Tablet Making Machines ☐
- Vacuum Pans and Dryers ☐
- High Vacuum Pumps ☐
- Molds of all Types ☐
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- Coating and Polishing Pans ☐
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- Alcohol Recovery Apparatus ☐
- Tube and Jar Fillers ☐
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- Conveyors ☐
- Special Machinery ☐

Write for descriptive folder which explains this machine in detail:

Its VERSATILITY—fills practically all semi-liquids and pastes into tubes from smallest up to 1½" x 7" with a minimum loss of time for cleaning and adjustments.

Its SPEED—fills, closes and clips over 20,000 tubes per 8-hour day.

Its CLEANLINESS—special filling mechanism and "no tube—no fill" control prevent spilling of material.

Its ACCURACY
Its DEPENDABILITY
Its SIMPLICITY
Its COMPACTNESS

Write us for information on our complete line of tube fillers or any machine listed

FJS STOKES MACHINE COMPANY
PHARMACEUTICAL MACHINERY SINCE 1895
5932 Tabor Road, Olney P. O. Philadelphia

The Charges Answered

(Continued from page 23)

was contributing editor of a publication circulated by De Castro; that Rusby tested and lent his name to Ambruster's fluid extract of ergot; that Rusby sought to promote the sale of the latter; that he paid Ambruster's rent for a time.

The bi-assay test of fluid extract of ergot was prescribed by the Pharmacopoeia that went into effect in 1926. Dr. Ill of New Jersey testified that he found ergot inferior in 1923 and 1924. Before the bi-assay test was officially adopted, it is admitted that some fluid extract on the market may have been sub-potent, yet it complied with the tests then required, it is asserted. Before 1926, Mr. Campbell stated, any ergot that was pure was allowed entry, under his administration. After that period, he said, the purity standard was maintained and the potency standard was added.

Lousy, mouldy, slimy, decomposed ergot has never been permitted under the Campbell administration, the committee was told, but it was admitted prior thereto, on recommendation of Dr. Rusby. For a time, in 1926 and 1927, the Department did permit the admission of sub-potent ergot, but a total of only 92 bags of this crude drug was admitted, and then only on condition that it would be manufactured into fluid extract of ergot that would meet pharmacopoeial requirements. What was there prejudicial to the public health in this action"? the department asked. The answer is, nothing. But the Ambruster clan declared that department failed to enforce the law, in admitting even those 92 bags. In reply the department pointed to the decisions of the solicitor and the regulations approved by the Secretaries of Treasury, Agriculture and Commerce holding that the department has discretion to admit sub-standard products in some instances for manufacturing purposes.

Another of the charges against the department was that inferior ergot fluid extract was on the market. The basis for this charge was largely the research work of Dr. Marvin Thompson of the Food and Drug Administration, who found that samples examined varied from complete impotency clear up to five times the U. S. P. strength. The reply to this charge is that the samples Dr. Thompson analyzed were purchased at a number of different drugstores where it had been kept under many different conditions and for various lengths of time. It was pointed out that once a bottle of medicine is opened, federal jurisdiction over it closes. This research led to the conclusion that the fluid extract will begin to deteriorate a few months after its manufacture, especially after it has been opened to the air, and will become completely impotent after 16 or 18 months. To meet this condition, it was brought out that the department has recommended to the Revision Committee that the Pharmacopoeia requirements be changed so as to provide for packaging the fluid extract in smaller bottles, bearing the date of manufacture, and that the product shall be withdrawn from the market after it reaches a certain age.

While Ambruster et al were loudly asserting that fluid extract of ergot made by large drug manufacturers was inferior, the interesting fact was developed that samples of the Ambruster-Rusby extract of ergot, obtained from Dr. Ill's hospital, were found by the Department of Agriculture to be less than 50 per cent. potent.

Dr. Munch of Sharp & Dohme explained to the committee how crude ergot that is sub-potent is handled by manufacturers. He said that it was a mistake to say that two pounds of crude ergot of only 50 per cent. strength was used in making one pint of fluid extract. Rather, he said, the ergot generally was used, pound for pint, in making fluid extract and then the extract made from sub-potent ergot would be strengthened by being mixed with extract made from excessively strong ergot, or the latter extract sould be diluted by mixture with the weaker extract, until in each instance a 100 per cent. extract would be obtained.

It had been charged that full strength fluid extract of ergot made from excess quantities of pure, but sub-potent ergot was harmful. But Dr. Torald Sollman, representing the American Medical Association, testified to the contrary, and finally Mr. Campbell presented an affidavit signed by Dr. Rusby in the injunction suit of Ambruster against the department, stating that such extract would not be dangerous. This charge was also disproved, in a measure, by the fact, shown by Dr. Sollman, that there were no complaints received by the A. M. A. Council of Pharmacy and Chemistry against such ergot.

The prosecution charged that fluid extract of ergot made from impure, mouldy ergot was detrimental to health. While it was not shown that any such extract had been put on the market, Dr. Sollman even went so far as to say that he knew of no reason why such ergot should be detrimental. If the amine content of ergot extract is harmful, as claimed, the department retorted that Ambruster-Rusby extract tested second and third highest in amines.

The charge that sub-standard ergot had been responsible for increased mortality from hemorrhage during childbirth was disproven by official statistics of the U. S. Public Health Service submitted by Dr. J. J. Durrett, Chief of Drug Control, Department of Agriculture, which showed that during the period 1926-27, when Ambruster alleged that the market was flooded with impure ergot, the death rate in maternity cases actually declined.

On the question of ether, the opposition charged that quantities of impure ether had been on the market; that the department failed to seize it, but instead held a secret hearing at which an arrangement was entered into with the manufacturers whereby

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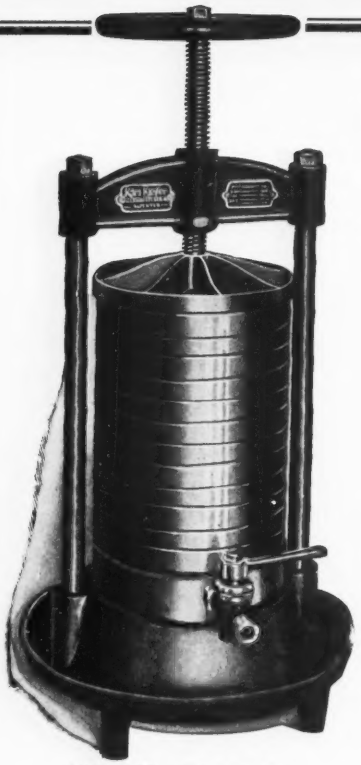

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The Karl Kiefer Machine Company

Cincinnati, Ohio

they were permitted to withdraw from the market impure ether; also that such ether had caused the death of many persons to whom it was administered.

Mr. Campbell denied that there was any considerable quantity of impure ether on the market, but brought out that in 1926, when U. S. P. X went into effect the department began seizing ether if it contained aldehydes or peroxides, which condition is against the requirements of that pharmacopoeia. There was no secret hearing, declared Mr. Campbell, but a conference was held with manufacturers and a proposition for co-operation between the department and the trade was submitted. Under this plan, manufacturers were to make their ether in smaller batches, to take samples of each batch and examine them from time to time, and if any sample was found to develop aldehydes or peroxides the whole batch which it represented would be withdrawn from the market. The department believed that the public would be better protected under this plan than if reliance were had solely upon seizures. However, there have been seizures also since that arrangement, and more samples have been examined by the department in each succeeding year than the year before, beginning in 1926. Yet the percentage of cans containing peroxides had declined simultaneously with these increased examinations, from 34 per cent. in 1926 to 9 per cent. in 1929. Over 1,000 cans of ether made by one manufacturer were examined last year.

The scientists have not yet discovered altogether why and how peroxide, aldehydes and acids form in ether, it appeared from the testimony, but Dr. Anderson of Squib & Co. indicated that they believe they are on the right track in substituting a copper-lined can as a container, making ether in smaller batches, putting it up in smaller containers, with a view to avoiding undue ageing of ether before it is used. Not more than 2,000 half pound tins of ether are made at one time by a large manufacturer.

It is admitted that ether should not contain peroxides and aldehydes, under the pharmacopoeia requirement, but Dr. Bennett of New York, who testified that he had administered ether to 50,000 patients, stated that he had noticed no ill effects due to aldehydes or peroxides, and no deterioration generally in the quality of the ether. He strongly endorsed Squib's ether. Senater Copeland also declared for ether in preference to other anesthetics.

The charge that many deaths were due to inferior ether seemed to be based almost, if not entirely, upon one or two newspaper clippings from Canada that were introduced by Senator Wheeler. Mr. Campbell introduced a letter from the Canadian drug administration stating that the ether used in the Canadian hospitals concerned in the Wheeler clippings had been examined and found to be pure. A letter was also submitted from Dr. Shirley Wynne, New York City

People write in by the hundreds ..unsolicited

"I have had such wonderful satisfaction using your remarkable little cap . . ."

"We save our Kork-N-Seal tops that come on So-and-So for ginger ale . . ."

"I wish other manufacturers would use such a handy cap . . ."

Et cetera, gentlemen, *et cetera!* We could almost lead a filibuster by quoting from the correspondence that comes in to us regularly.

A number of makers of drug products have taken advantage of this universal appeal of Kork-N-Seal. They have proved over and over that Kork-N-Seal's advantages are not just a matter of conversation, but of *actual consumer preference.*

Do their salesmen, too, appreciate the extra order-clinching facts that this newer, better method of sealing provides? Ask them! And let us send you a boiled-down summary of facts, or answer any questions you have in mind. Write today!

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THE CAP WITH THE LITTLE LEVER

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New and Improved!

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The No. 2 Rotary Tablet Machine has such desirable features as *positive pressure*, eliminating varying thicknesses of tablets; *hardened steel gear drive*, eliminating frequent replacement of worms used on other makes, and *sliding upper punch holders*, to hold the punches rigidly, enabling the manufacture of special shaped tablets most satisfactorily.

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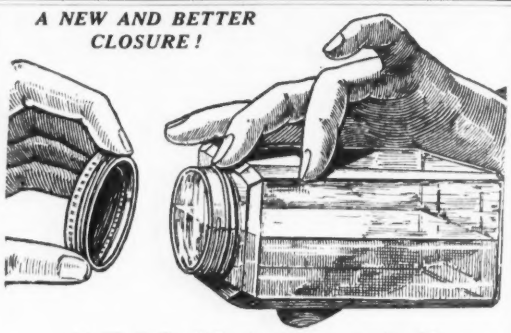

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health officer, stating that ether used in that city had been tested and no peroxides found. It was not shown that the procedure followed by the Food and Drug Administration with reference to ether had caused any suffering or death to the public.

Dr. Hoover told the committee that if the department had not used discretion in the ether case it would have driven the medical profession to the use of chloroform. To have done that, he said, would have been detrimental to the public health. Dr. Hoover described chloroform as outside the pale of anesthetics. He was chief of Drug Control at the time the department's ether policy was adopted, and told the committee that he accepted full responsibility for it. Certain lots of ether for the Army were rejected, but it was brought out that Army specifications are more stringent than U. S. P.

With reference to digitalis, the charge that the country was flooded with an inferior quality of this drug was disproven. Mr. Campbell showed that the crude digitalis permitted to enter was of exceptionally high quality. Out of hundreds of samples of digitalis examined during the past four years by the Department, only one sample was found to be slightly inferior, according to Dr. Durrett's testimony.

Digitalis extract or tincture is subject to deterioration, as in the case of ergot, department officials admit, but not so much research work has been done on digitalis. When sufficient facts are available, the department has in mind a recommendation to the Revision Committee that a time limit should be put upon the period that digitalis preparations may remain on the market, so as to avoid the purchase and administration of inferior products to the patient.

Senator Wheeler charged, in effect, that the increasing deaths from heart disease may be attributed to impure or inferior digitalis, but this charge was not sustained. Experts on the other side suggested that it is possible that heart disease will increase since a number of other diseases, such as diphtheria and typhoid fever, have either practically disappeared or been very much reduced. The time must come, with these and other diseases absent, they said, when the human body will wear out in some organ; and what more likely than the heart.

Senator Wheeler dwelt upon the situation as regards ginger jake at some length. He declared that the department was responsible for thousands of cases of paralysis and death due to the drinking of this product. The department's reply to this was that several years ago an arrangement was entered into with the Prohibition Bureau whereby the latter took over jurisdiction over the traffic in extract of ginger, on the ground that it was used as a beverage and handled in violation of the prohibition law. Mr. Campbell pointed out that there might be as much reason for his department to deal with the whisky situation as there would be for it to deal with ginger jake.

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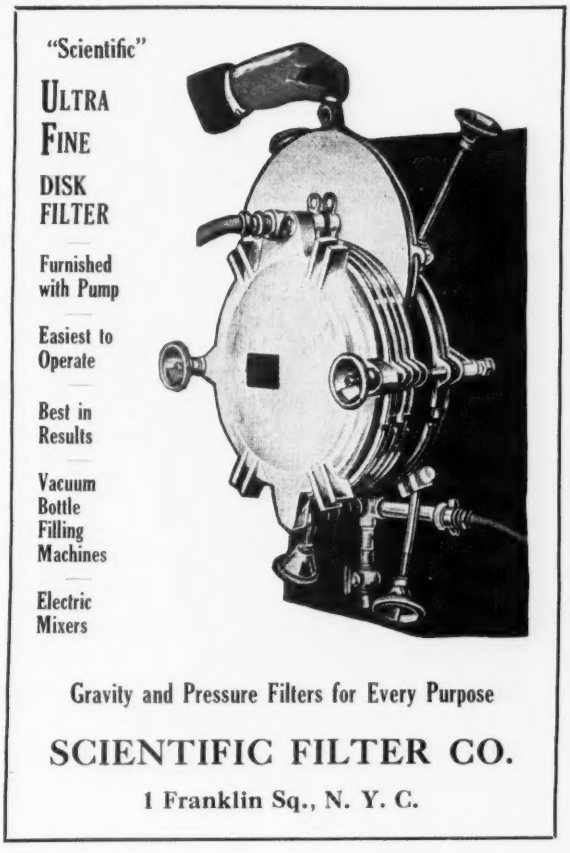

However, he said, when it was found that people were being poisoned by the use of ginger jake, the Department of Agriculture ordered seizures to be made, and a number have been made. He and other witnesses for the government declared that little or no ginger jake is a bona fide U. S. P. preparation and that only one case had come to their attention of a person being poisoned by using ginger jake medicinally. The ingredients causing poisoning were unknown to government experts.

Mr. Campbell submitted to the committee that the department would have been open to serious criticism if it had utilized its full force and funds to control the ginger jake situation; yet he said that such force and funds would have been required to secure complete control. He told the committee of the difficulties confronting the department in dealing with this situation. Nobody knew where the stuff was produced, the committee was told, but it was shipped from Boston originally in barrels marked "liquid medicine." It was impossible for the department to touch it under the circumstances. It was difficult to trace it in interstate commerce after it was packaged for the bootleg trade, he said, and it was peddled around the country from automobiles and otherwise.

Salvarsan. The charge was made to the committee that somebody told somebody else that he had samples of a batch of salvarsan, from other samples of which four people were killed. Dr. McCoy of the Hygienic Laboratory described to the committee the care with which salvarsan is tested by that branch of the government; also how it deals most carefully with other biological products. Dr. Anderson of Squibb's also discussed this question to the apparent satisfaction of the committee. Dr. Hoover said that in the war period a solution of common salt was bootlegged as salvarsan.

One of the few surprises of the hearing developed when Senator Wheeler, shortly before he left town, introduced the subject of coca cola and questioned the department witnesses about the alleged discovery of egonine, a derivative of cocaine, in "merchandise No. 5," which is a product of decocanized coca leaves and of cola nuts. This merchandise No. 5 is used to make the coca cola extract or syrup which is in turn used in making the drink. The senator argued that under the law either a food or a drink containing a derivative of cocaine must be marked to indicate the fact. He ascertained the fact that no seizures had been made and that no such marking had been required by the department, and then remarked: "Maybe you can laugh that off."

Mr. Campbell and Dr. Durrett answered this charge fully and frankly. Mr. Campbell said that after he took charge of the Food and Drug Administration he ordered some tests to be made with reference to coca cola to determine its contents. One sample of merchandise No. 5 that was tested showed a minute quality of egonine, equivalent to about one-thousandth ($^1/_{1000}$) of a milligram. Other samples tested later failed to show any egonine whatever, although the methods of testing had been improved by Dr. Palkin of Drug Control from 35 per cent. accuracy to 85 per cent. accuracy. Under the circumstances the department had not felt justified in making seizures or requiring merchandise No. 5 to be marked to show an alleged narcotic content.

There had been a deal of speculation about this alleged egonine discovery, how the drug got there, if it was there, and so on. Dr. Durrett explained that coca cola flavor is a very complex vegetable substance or rather a number of them combined. Some believe that the alleged egonine was derived from the cola nuts used in making this flavor. Another theory was that the minute quantity of egonine discovered was a residue from a little alcohol that splashed into a container used in making merchandise No. 5, which alcohol had been used in extracting cocaine from the coca leaves used with cola nuts and other ingredients in making merchandise No. 5. After the first tests were made of merchandise No. 5, it was suggested that the manufacturers may have improved their methods so as to eliminate even the minute quantity of egonine. In any event, no more of it appeared. It developed at the hearing that the Narcotic Bureau as well as the Food and Drug Administration had been interested in this matter because the former is charged with preventing the exportation of narcotics and desired to check up on merchandise No. 5 in this connection.

Senator Wheeler and department witnesses discussed the old coca cola case which was started under the direction of the late Dr. Wiley. That case was based on the charge that coca cola contained caffeine, an "added deleterious ingredient" forbidden by the law. The Coca Cola Company won the case in the lower federal courts, but the United States Supreme Court held that the ingredient was "added." The case was remanded to the federal district court for Tennessee for retrial. It was then up to the department to prove that the amount of caffeine contained was deleterious. The manufacturers meanwhile had reduced the amount of caffeine to a point where in a drink of coca cola the quantity is about half the quantity of caffeine in a cup of tea or coffee. The department could not get physicians and other experts to testify that such a small quantity of caffeine in a drink of coca cola would be deleterious. The coca cola case therefore languished for a number of years until Mr. Campbell took charge of the administration, when he ordered a renewal of the investigation which resulted in the alleged egonine incident.

The only testimony along the line that the department was too strict in its labeling requirements came from a Brooklyn manufacturer, who told the committee that under department rulings it was not permissible to label a veterinary product as good for the treatment of certain diseases of dogs. He quoted an old department publication as indicative that such diseases might be treated in certain manner with

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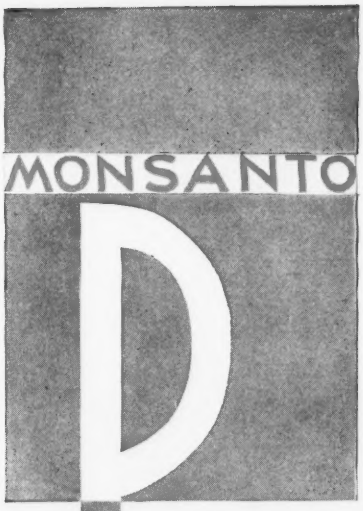

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success. He also declared that it was difficult to obtain pure U. S. P. creosote. The U. S. P. requires beechwood creosote, he said, whereas the department permits creosote to be labeled hardwood creosote.

One of the dramatic incidents of the hearing was the last public appearance of Dr. Harvey W. Wiley, former chief of the pure food and drug cohorts. Dr. Wiley spoke briefly before the committee on its first day's hearing, generally in favor of pure drugs, including digitalis. Questioned by Chairman McNary of the committee as to particular charges by Ambruster relative to impure ergot, Dr. Wiley said he had no special knowledge. He begged to be excused therefore, but asked and obtained permission to file a written statement. Later he withdrew his original statement, it being explained that he had thought the hearing would cover the general field of pure foods and drugs. Still later, after Dr. Wiley was stricken with the attack that finally took his life, Mrs. Wiley appeared before the committee and read a statement in which she said Dr. Wiley had been under a misapprehension; that he had not understood the purpose of the hearing.

Making Creams and Ointments

(Continued from page 65)

Mineral oil is, of all ingredients of creams and ointments, easiest to handle. If the melting tanks are sunk into the floor the drums can be tilted on a barrel tilter—a simple device resembling the rockers of a rocking chair, somewhat exaggerated—and the required quantity poured out. If, however, the melting tank is elevated it is necessary to pump the oil into them. Some fortunate firms having large production and high buildings, store the mineral oil in tremendous tanks, from which it is piped to the various departments using it. These tanks are replenished by dumping the drums into a reservoir at street level and pumping it up, or by carrying the drums up on an elevator and rolling them on tracks above the tanks. The bungs are then removed and the oil runs out of its own accord through holes in the floor into the storage tanks.

I have purposely omitted the mention of weighing apparatus because it is obvious that each ingredient must be weighed. But since some confusion might arise when mention is made of pouring an entire barrel of an ingredient into a melting tank at one time, it might be well to point out that reference is of course made to large batches which would take this amount. But since all ingredients are not used in the same proportion, the small amounts that may be required over and under barrel lots, may be added by taring the barrel on a platform scale and adding the necessary amounts by deduction from the gross weight of the barrel.

As to melting tanks, it may be said that they can be of any metal provided that they are tin, monel, or glass lined. Steam-jacketed copper kettles are commonly used. If the height of the plant admits of gravity flow, melting tanks should be sunk into the floor as mentioned. Where manufacturing is done on one level, a single mixing tank may be used both for melting and mixing or emulsifying. When this is necessary, it is advisable to construct a fine-wire screen to fit into the interior of the tank. This screen should be lined with straining cloth and so designed that it can readily be removed. If the ingredients are put into this screen when the batch is being made, all chips and dirt are retained in it. Melting and mixing tanks of this type should be equipped also with water piping for the purpose of rapidly cooling the mass down to the mixing point.

A last word with regard to rapid cooling. If a gravity system is used, it is dangerous to pour hot waxes and petrolatum into cool oil on the assumption that cooling is thereby aided. Grittiness in the finished product will almost certainly result. As the hot wax strikes the cool oil minute granules of wax form which do not get a chance to melt, because the temperature of the batch is at once lowered to the mixing point. But cold oil may be added to hot wax without any danger if the wax is kept agitated.

Mixing or emulsifying may be done in any number of different types of equipment; mixing tanks with built-in paddles, tanks with portable mixers, colloid mills, etc. The various merits of the machines cannot be touched on here; the manufacturer's individual problem will govern the type of equipment he uses. Such tanks, as stated before, should be equipped with water pipes for rapid cooling. Since perfume cannot be added while the cream is hot, the quicker the batch is cooled the better.

Filling ordinary creams present no problem. A number of excellent machines are available for this purpose. Owing to the impossibility of keeping the cream at a constant temperature in the mixing tank and in the piping leading from it into the filler, variation in the contents of the jars is encountered. Some appear to be too full and others not full enough. Since there is considerable variation in the jars themselves, it does not pay to build an elaborate thermostatically controlled system. Wide variation can therefore only be avoided by continual adjustment of the filling machine.

A last word as to temperature:— If creams are filled too hot the perfume not only will be injured but the cream will sink in the middle when cooling in the jars, and the hotter the cream the deeper the depression.

Heavy creams and pastes since they are manufactured in an entirely different manner were not touched on here and will be discussed in a subsequent article.

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FINE CHEMICALS

FINE HEYDEN CHEMICALS

SALICYLATES

Acid Salicylic
Acetyl Salicylic Acid
Methyl Salicylate
Sodium Salicylate
Minor Salicylates

GLYCEROPHOSPHATES

Potassium
Magnesium
Manganese
Sodium
Calcium
Iron

Benzoate of Soda
Benzoic Acid
Benzaldehyde
Benzyl Chloride

Formaldehyde
Para Formaldehyde
Hexamethylenetetramine

Creosote
Creosote Carbonate
Guaiacol
Calcium Guaiacol Sulphonate
Potassium Guaiacol Sulphonate

Bromides
Silver Salts

HEYDEN CHEMICAL CORP.

50 UNION SQUARE NEW YORK
180 N. WACKER DRIVE CHICAGO

Prices Current

Medicinal, Aromatic, and Photographic Chemicals, Crude Drugs, Spices, Essential Oils and Concentrates, Miscellaneous Raw Materials, etc.

Chemical prices quoted are of American manufacturers, spot New York, f. o. b. for immediate shipment, unless otherwise specified.

Products sold f. o. b. works are so specified. Imported chemicals are so designated. Resale stocks, when a market factor, are indicated "second hand."

Crude Drugs and Essential Oils are quoted f. o. b. New York (Manhattan with limitations) for immediate shipment

The range of price given is not "bid and asked," but are prices of different sellers, based on varying grades and/or quantities. Containers named are original packages most commonly sold.

Acetanilid
Ammonium Valerate

Chemicals

Monthly Review

Alcohol Remains Weak

Alcohol is still experiencing a period of unsettlement. This condition has now existed for several months and has so far resisted the efforts of the distillers to bring about a more stable market. The dominant factors that have brought lower prices are the lack of demand usually experienced during the summer season, augmented by the general business depression this year and keen competition both in the industry and from outside sources. Manufacturers of substitutes for anti-freeze alcohol have been particularly active this year and have undoubtedly influenced prices considerably.

The minimum spot market in New York for completely denatured alcohol number 5, and specially denatured alcohol number 1, is 39c per gallon in drum carload lots, and 37c per gallon in tank cars. Single drum prices range from 46c to 50c per gallon according to buyer and conditions involved in the sale. These prices are for spot delivery only, the freight on out of town shipments being added to these figures.

It is reported in some circles that business at lower figures than the above has been rejected but there are also indications that some distillers would not be adverse to shading these quotations and would not turn down new business for prompt shipment at lower prices as they desire to move accumulated stocks at a time when shipments going forward against contracts are very small.

Distillers have hopes of a better condition in the Fall when prices may be stabilized by an increased demand which would eliminate the competition for the small amount of business now available.

Bismuth Remains Unsettled

The overproduction of bismuth metal is still being felt in this market. Bismuth salts, after the reduction of a month ago, remain unchanged at prevailing levels. As bismuth metal is a by-product it is practically impossible to control the amount produced. New uses for this commodity would be necessary in order to take up the surplus of production over present consumption before a more stable condition can be expected.

Balsam Peru has been reduced during the past month to $1.65 per lb. Demand for this commodity has been light and replacement values have been cut considerably. This has enabled dealers to lower their prices to consumers.

Glycerine still continues dull at prevailing levels. Very little new business is being booked and this commodity has settled down to a seasonal dullness that is characteristic. It is reported that on large orders the prevailing price of 13½c per lb. could be shaded.

	Current Market		1930 High	1930 Low	1929 High	1929 Low
Acetanilid, USP, 200 lb bbls..lb	.36	.37	.37	.36	.37	.36
Acetone, pure 350 lb drs wks..	.12	.14	.14½	.12	.19	.14
Acetphenetidin, 225 lb bbls..lb.	1.25	1.30	1.30	1.25	1.35	1.25
ACID, Acetylsalicylic, 225 lb .....bbls.	.85	.90	.90	.85	.90	.85
Agaric, 1 oz vials.....oz	...	3.50	3.50	3.50	3.50	3.50
Arsenous, USP, 220 lb bbls lb.	...	.18	.18	.18	.18	.18
Benzoic, USP, 100 lb bbls.lb.	.60	.61	.61	.60	.61	.60
Boric, 300 lb bbls.....lb.	.09½	.10	.10	.07½	.10½	.07½
Cacodylic, 5 lb. bot.....lb.	...	8.00	8.00	8.00	8.00	8.00
Camphoric, USP, VIII 1 lb bot.....lb.	4.82	4.82	4.82	4.82	4.82	4.82
Carbolic, USP, crys 112 lb tins.....lb.	.17	.18	.18	.14	.19	.14
Cinnamic, 5 lb cans.....lb.	3.25	3.50	3.50	3.25	3.50	3.25
Citric, USP, crys 230 lb bbl .....lb.	...	.46	.46	.46	.46	.46
USP, crys imp. 112 lb keg .....lb.	.65	.70	.70	.65	.61	.59
USP, powd 200 lb bbl...lb.	...	.47	.47	.47	.47	.47
Diethylbarbituric, 1 lb bot lb.	4.00	4.50	4.50	3.80	4.60	4.60
Gallic, USP, 150 lb bbls..lb.	...	.74	.74	.74	.74	.74
Glycerophosphoric, 25% 1 lb bot.....lb.	1.40	1.75	1.75	1.40	1.75	1.40
Hydriodic, USP, 10% 5 lb bot.....lb.	...	.70	.70	.70	.80	.80
Hydrobromic, USP, 40% 155 lb. cbys.....lb.	...	.55	.55	.55	.55	.55
Hypophosphorous, USP, 30% .....lb.						
5 gal demis.....lb.	...	.85	.85	.85	.85	.85
Lactic, USP, VIII 100 lb cbys lb.....	.53	.59	.62	.53	.62	.56
USP, X 100 lb cbys.....lb.	.57	.59	.64	.57	.64	.62
Phenylcinchonic.....lb.	...	3.25	3.25	3.25	4.50	4.50
Phosphoric, USP, Syr 70 lb drs.....lb.	.14	.15	.15	.14	.15	.14
Pyrogallic, crys 5 lb cans..lb.	1.30	1.40	1.40	1.30	1.50	1.40
Resublimed, 5 lb cans...lb.	1.60	1.70	1.85	1.80	1.85	1.80
Salicylic, USP, 100 lb bbls..lb.	.40	.45	.45	.40	.40	.39
Succinic, 100 lb bbls.....lb.	...	1.35	1.35	1.35	1.35	1.35
Sulfurous, USP, 6% 100 lb cbys.....lb.	.05	.06	.06	.05	.06	.05
Tannic, USP, fluffy 50 lb bbls. .....lb.	.90	.93	.93	.82	.93	.85
Powd 200 lb bbls.....lb.	.80	.85	.85	.80	.85	.80
Tartaric, USP, 300 lb bbls.lb	.36	.37	.38½	.36	.38	.37½
Aconitine, Alk, crys 1 oz vials .....oz.	...	30.00	30.00	30.00	30.00	30.00
Amorphous, 1 oz vials....oz.	...	20.00	20.00	20.00	20.00	20.00
Adeps Lanae, hyd 350 lb bbls lb.	.14½	.15	.16	.14½	.16	.15
Anhydrous, 350 lb bbls....lb.	.15	.16	.18	.16	.18	.16
Agaricin, 1 oz vis incl.....oz.	...	2.32	2.32	2.32	2.32	2.32
ALCOHOL, Benzyl, 5 lb bot lb.	1.25	1.35	1.35	1.25	1.35	1.25
Ethyl, USP, 190 pf 50 gal bbls.....gal.	2.69½	2.79½	2.79½	2.69½	2.79½	2.69½
Pure tax free.....gal.	.61	.69	.69	.61	.69	.61
Grain drums.....gal.	2.69	2.79	2.79	2.69	2.79	2.69
Denatured, drums add 7c for bbls.....						
No. 1 spec.....gal.	.42	.46	.59	.42	.60	.47
1 comp.....gal.	.43	.47	.60	.43	.61	.48
No. 5 comp.....gal.	.42	.46	.59	.42	.60	.47
23 a, spec.....gal.	.43	.55	.59½	.43	.61½	.48½
39 b, spec.....gal.	.51½	.61½	.63½	.51½	.71	.51½
40 m, spec.....gal.	.47	.58	.59	.47	.66½	.47
Isopropyl refd 98-99% drs .....gal.	1.30	1.60	1.60	1.25	1.50	1.25
Phenylethyl, 1 lb bot.....lb.	4.30	4.50	4.50	4.30	10.00	8.00
Aloin, USP, 100 lb cases....lb.	1.73	1.78	1.95	1.73	1.95	1.25
Aluminum Acetotartrate kegs .....lb.	...	1.60	1.60	1.60	1.60	1.60
Amidipyrine, 10 lb boxes....lb.	4.25	4.45	4.45	4.25	4.45	4.25
AMMONIUM, Acetate 100 lb kegs.....lb.	.38	.40	.40	.38	.40	.30
Benzoate, USP, 1 lb bot...lb.	...	1.27	1.27	1.27	1.27	1.27
Borate, 10 lb bot.....lb.	...	.35	.35	.35	.35	.35
Bromide, USP, 450 lb bbls.lb.	.47	.49	.49	.47	.50	.47
Imported, 112 lb boxes..lb.	.48	.50	.50	.48	.50	.48
Carb, USP, lump 100 lb kegs .....lb.	...	.13½	.13½	.13½	.13½	.13½
USP, powd 100 lb kegs..lb.	...	.14½	.14½	.14½	.14½	.14½
Citrate, 100 lb kegs.....lb.	.90	1.30	1.30	.85	.90	.85
Ichthyolate, as to brand..lb.	4.00	4.50	4.50	4.00	4.50	4.00
Iodide, USP, 25 lb jars...lb.	...	5.20	5.20	5.20	5.20	5.20
Phosphate, dibasic 250 lb bbls .....lb.	.48	.50	.50	.48	.50	.43
Salicylate, USP, 100 lb kegs .....lb.	1.15	1.20	1.20	1.15	1.20	1.15
Valerate, USP, 25 lb jars...lb.	2.75	2.90	2.90	2.75	2.90	2.75

{ Monthly Review }

Mercury Holds Position

Mercury remains unchanged at prevailing levels, being offered at $120.00 and $121.00 per flask. Buying is very quiet and in hand-to-mouth quantities only. Domestic stocks have been arriving in the spot market in quantities only sufficient to meet the demand so that there is no over stocking of supplies here. There is no reason why, under present existing conditions, the market should not continue to present a strong aspect.

Domestic Mercury Gains

The domestic production of mercury last year was the largest since 1918, totaling 23,682 flasks of 76 pounds each. This is approximately 6,000 flasks more than was produced in 1928, according to a statement issued June 30 by the Bureau of Mines, Department of Commerce.

The value of the 23,682 flasks is calculated at $2,892,638. In 1928 the output was 17,780 flasks valued at $2,207,003. Imports of mercury dropped last year by about 1,000 flasks following the increased domestic output, in which California was the leading State.

In 1918, 32,450 flasks were produced, the 1929 production, however, being only 73 per cent. of the average annual production from 1850 to 1921, inclusive. The incentive to produce was greater in 1929 than during the period 1850 to 1921, as the average quoted price was approximately $122 a flask compared with $48 a flask for the period 1850 to 1921.

California again led the mercury producing States in production in 1929 with an output of 10,139 flasks, Nevada was second with 4,764 flasks, followed by Oregon with 3,657 flasks. Washington produced 1,397 flasks, and Texas, Arizona and Alaska, together, 3,725 flasks. In addition to the above 171 flasks of mercury was produced in Nevada from gold and silver pan-amalgamation tailings. In 1928 the production by States was as follows: California, 6,977 flasks; Nevada, 2,867 flasks; Oregon, 3,710 flasks; and Texas, Washington, and Arizona, together, 4,316 flasks. Secondary mercury from pan-amalgamation tailings in Idaho and Nevada in 1928 amounted to 414 flasks.

In 1929, 14,292 flasks, valued at $1,447,142, were imported, compared with 15,378 flasks, valued at $1,572,017, in 1928. Of the quantity imported in 1929, 9,412 flasks were received from Spain, 1,249 flasks from Belgium, 892 flasks from Italy, 701 flasks from Germany, 323 flasks from France, 1,209 flasks from Mexico, 493 flasks from Canada, and 13 flasks from Peru. In 1928, 6,108 flasks came from Spain, 5,642 flasks from Italy, and the remainder from other countries.

Production in the United States plus imports indicated 37,974 flasks of mercury made available in 1929 compared with 33,248 flasks in 1928.

Menthol is easier on spot at $4.10 and $4.25 per lb. Competition here is still very keen with demand continuing to be spasmodic and small. Japan is now harvesting the new peppermint crop. The foreign market has not as yet been affected by the crop with prices for replacement being unchanged.

	Current Market	1930 High	1930 Low	1929 High	1929 Low
Amylene Hydrate, 1 lb bot..lb.	...	7.10	7.10	7.10	7.10
Antipyrine, USP, 100 lb cans.lb.	2.65	3.00	3.00	2.65	3.00	1.53
Apomorphine Hydrochloride, ¼ oz. vials.....oz.	22.60	22.70	22.70	22.60	22.70	22.60
Arecoline Hydrobrom, 1 oz vials .....oz.	7.75	8.75	8.75	7.75	8.75	7.75
Aspidospermine Amorphous.oz.	...	15.00	15.00	15.00	15.00	15.00
Atropine Alk, USP, 1 oz. vials .....oz.	6.50	7.00	9.10	6.50	9.10	7.00
Methyl bromide, 1 oz vials.oz.	...	25.00	25.00	25.00	25.00	25.00
Sulfate, 5 oz cans.....oz.	...	2.50	3.00	2.50	3.00	3.00
Single ounce.....oz.	...	3.00	3.15	3.00	3.15	3.15
Barium Iodide, 5 lb box.....lb.	...	5.15	5.15	5.15	5.15	5.15
Sulfate, X-ray diagn bbls..lb.	.09½	.10	.10	.09½	.10	.09½
BAY RUM Porto Rico, 45 gal. bbls.....gal.	.75	.80	.90	.75	.90	.85
Domestic syn. 50 gal bbl..gal.	.70	.75	.75	.70	.75	.70
St. Thomas, 50 gal bbls...gal.	.80	.90	.90	.80	.90	.80
Benzonaphthol, 5 lb boxes...lb.	2.50	2.60	2.60	2.50	2.60	2.50
Benzoyl Cholride, 500 lb dr..lb.	1.00	1.05	1.05	1.00	1.00	1.00
Benzyl Benzoate, Medicinal FFC.....lb.	1.20	1.40	1.40	1.20	1.40	1.40
Chloride Redis, 160 lb cby.lb.	.30	.35	.35	.30	.35	.30
Formate, 1 lb bot.....lb.	3.25	3.50	3.50	3.25	3.50	3.25
Succinate, 160 lb cby.....lb.	...	5.25	5.25	5.25	5.25	5.25
BISMUTH, metal 100 lb cases .....lb.	...	1.10	1.70	1.10	1.70	1.70
Ammon. Citrate, USP, 5 lb cans.....lb.	...	3.25	5.50	3.25	5.50	5.50
Betanaphtholate, 5 lb box.lb.	...	2.90	3.10	2.90	3.10	3.10
Citrate, USP, 5 lb cans....lb.	...	2.60	2.75	2.60	2.75	2.75
Chloride.....lb.	...	3.00	3.15	3.00	3.15	3.15
Hydroxide.....lb.	...	2.90	3.05	2.90	3.05	3.05
Nitrate, 25 lb jars.....lb.	...	1.25	1.80	1.25	1.80	1.80
Oxide anhydrous.....lb.	...	3.25	3.40	3.25	3.40	3.40
Oxychloride, 25 lb boxes...lb.	...	2.95	3.10	2.95	3.10	3.10
Salicylate, 25 lb boxes.....lb.	...	1.65	1.80	1.65	1.80	1.80
Subcarbonate, USP, 25 lb boxes.....lb.	1.70	1.75	2.20	1.70	2.20	2.20
Subcarbonate, X-ray diag 1 lb. bot.....lb.	2.65	2.72	3.45	2.65	3.45	3.45
Subgallate, USP, 25 lb boxes .....lb.	1.75	1.80	2.50	1.75	2.50	2.50
Subiodide, 5 lb lots.....lb.	...	4.10	4.25	4.10	4.25	4.25
Subnitrate, USP, 25 lb jar.lb.	1.35	1.40	1.60	1.35	1.65	1.58
Subsalicylate, USP, 25 lb boxes.....lb.	2.55	2.60	2.90	2.55	2.90	2.90
Tannate.....lb.	...	2.30	2.65	2.30	2.65	2.65
Borax, crys USP, 400 lb bbls.lb.	...	.06	.06	.06	.06	.03½
Bromoform, USP, 5 lb bot cases .....lb.	1.65	1.90	1.90	1.65	1.90	1.65
Butylchloral Hydrate bot....lb.	4.00	5.00	5.00	4.00	5.00	4.00
Cadmium Iodide, 10 lb bot...lb.	...	4.55	4.55	4.55	4.55	4.45
CAFFEINE Alk, USP, 1..... 100 lb kegs.....lb.	2.45	2.50	2.80	2.75	2.95	2.45
Citrated, 50 lb cans.....lb.	2.20	2.45	2.60	2.20	2.60	2.00
Hydrobromide, 1 lb bot...lb.	4.80	5.00	5.00	4.80	5.00	4.80
Hydrochloride, 1 lb bot...lb	6.05	6.55	6.55	6.05	6.55	6.05
Sulfate, 1 lb bot.....lb.	5.40	5.90	5.90	5.40	5.90	5.40
Sodium Benzoate, tins....lb.	...	3.05	3.05	3.05	3.05	3.05
Salicylate, tins.....lb.	...	2.95	2.95	2.95	2.95	2.95
Calcium Bromide, 100 lb cs..lb.	...	.60	.60	.60	.60	.60
Carb, USP, 175 lb bbls....lb.	.05	.06	.06½	.04½	.06½	.04½
Glycerophos, 250 lb bbls...lb.	...	1.40	1.40	1.40	1.40	1.40
Hypophos, USP, 25 lb cans lb.	.60	.65	.65	.60	.65	.60
Iodide, 5 lb bot.....lb.	...	4.85	4.85	4.35	4.35	.35
Lactate, USP, 500 lb bbls lb.	.45	.50	.50	.45	.50	.45
Lactophosphate Soluble...lb.	...	1.20	1.20	1.20	1.20	1.20
Powdered tins.....lb	...	1.00	1.00	1.00	1.00	1.00
Insol. powd tins.....lb.	...	.50	.50	.50	.50	.50
Sulfide, USP, 100 lb drs...lb.	.21½	.24	.24	.21½	.24	.21½
CAMPHOR, Jap. ref. slabs 100 lb. cases.....lb.	.60	.61	.64	.60	.64	.59½
Refined powd.....lb.	.62	.63	.66	.62	.66	.63
½ oz tab, 100 lb cases....lb.	.72	.73	.77	.72	.77	.73
Liniment, bbls.....gal.	2.20	2.30	2.30	2.20	2.30	2.20
Monobrom, 100 lb cases...lb.	1.85	1.90	1.90	1.85	1.90	1.85
Casein edible, 100 lb kegs...lb.	.45	.55	.55	.45	.55	.45
Charcoal Animal medicinal jars incl.....lb.	...	.50	.50	.50	.50	.50
Charcoal Wood, powd, 100 lb. bbls.....lb.	.06	.07	.07	.05½	.06	.05½
Chloroform, USP, 50 lb drs...lb.	.25	.27	.27	.25	.30	.25
Chloral Hydrate, USP, 25 lb jars.....lb.	.78	.80	.80	.75	.80	.75
100 lb drums.....lb.	.73	.75	.75	.55	.75	.70
Cholesterin.....oz.	5.50	5.85	5.85	5.50	5.85	5.50
Chromium Sulfate Scales, tins .....lb.	.45	.50	.60	.45	.60	.55
Powdered tins.....lb.	.50	.55	.65	.50	.65	.60
Chrysarobin, 50 lb tins.....lb.	3.75	4.10	4.10	3.75	4.25	3.75
Cinchonine Alk, 100 oz tins.oz.	...	.38	.38	.38	.38	.38
Crystal.....oz.	.43	.46	.46	.43	.68	.65
Sulfate, 100 oz tins.....oz.	...	.25	.25	.25	.25	.25
Cinchonidin Sulfate, 100 oz tins .....oz.	.35	.35	.35	.35	.35	.35
Cocaine Alk, USP, 1 oz vial..oz.	...	11.07	11.07	11.07	11.07	11.07
Hydrochloride, USP,.....oz.	...	8.50	8.50	8.50	8.50	8.50
CODEINE Alk, 1 oz vials, 10 lots.....oz.	...	11.87	11.87	11.87	11.87	10.37
Hydrobromide.....oz.	...	8.92	8.92	8.92	8.92	8.92
Hydrochloride.....oz.	...	10.87	10.87	10.87	10.87	9.87
Nitrate, oz vl 10 oz lots....oz.	...	9.80	9.80	9.80	9.80	8.30
Phosp. oz vl, 10 oz lots....oz.	...	9.42	9.42	9.42	9.42	7.92
Salicylate.....oz.	...	8.25	8.25	8.25	8.25	6.75
Sulfate, oz vl, 10 oz lots...oz.	...	9.67	9.67	9.67	9.67	8.42

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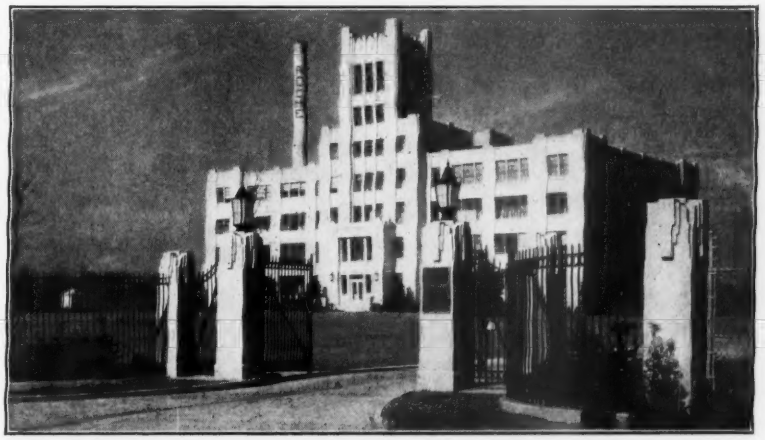

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{ *Monthly Review* }

Cod Liver Oil Plentiful

The cod fishing in Norway is now about finished. Final figures for the catch are considerably below the totals for last year but are large enough to eliminate the possibility of a stringent supply of oil. The catch of cod since the opening of the season now amounts to 61,000,000 against 78,235,000 for the same date last year. The yield of oil is 68,112 barrels against 79,680 barrels last year. It will be noticed that the yield of the livers is about equal to that of last year.

The spot market remains dull with no change in prevailing prices.

Less Cod Liver Oil Exported

Exports of medicinal cod liver oil to the United States from Norway through the port of Bergen (which port accounts for the bulk of the exports) for the first quarter of 1930 amounted to 388,000 gallons, valued at $311,000, as against 411,000 gallons, valued at $375,000, for the same period of the preceding year. (Vice Consul C. F. Worman, Bergen.)

Imports of cod liver oil into the United States for the first four months of 1929 and 1930 were, respectively, 971,723 gallons, valued at $928,544, and 1,064,147 gallons, valued at $893,657.

Large Iodine Stocks in Chile

Reports submitted by Vice Consul S. L. Wilkinson, Iquique, and Consul T. S. Horn, Antofagasta, state that the exports of crude iodine from the port of Iquique, which accounts for a substantial share of the trade, to the United States and possessions during the March quarters of 1929 and 1930 amounted to, respectively: 83,390 pounds, valued at $302,926 ,and 94,778 pounds, valued at $352,367. While crude iodine exports increased slightly, local stocks are very large. One local oficnia is said to have enough iodine on hand to supply the entire world for a year. Exports of iodine from Chile to all countries through the port of Antofagasta, which also accounts for a large part of the exports, were 80 metric tons (14 tons of which went to the United States) for the first quarter of 1930 as against 78 metric tons for the three months ending December 31, 1929.

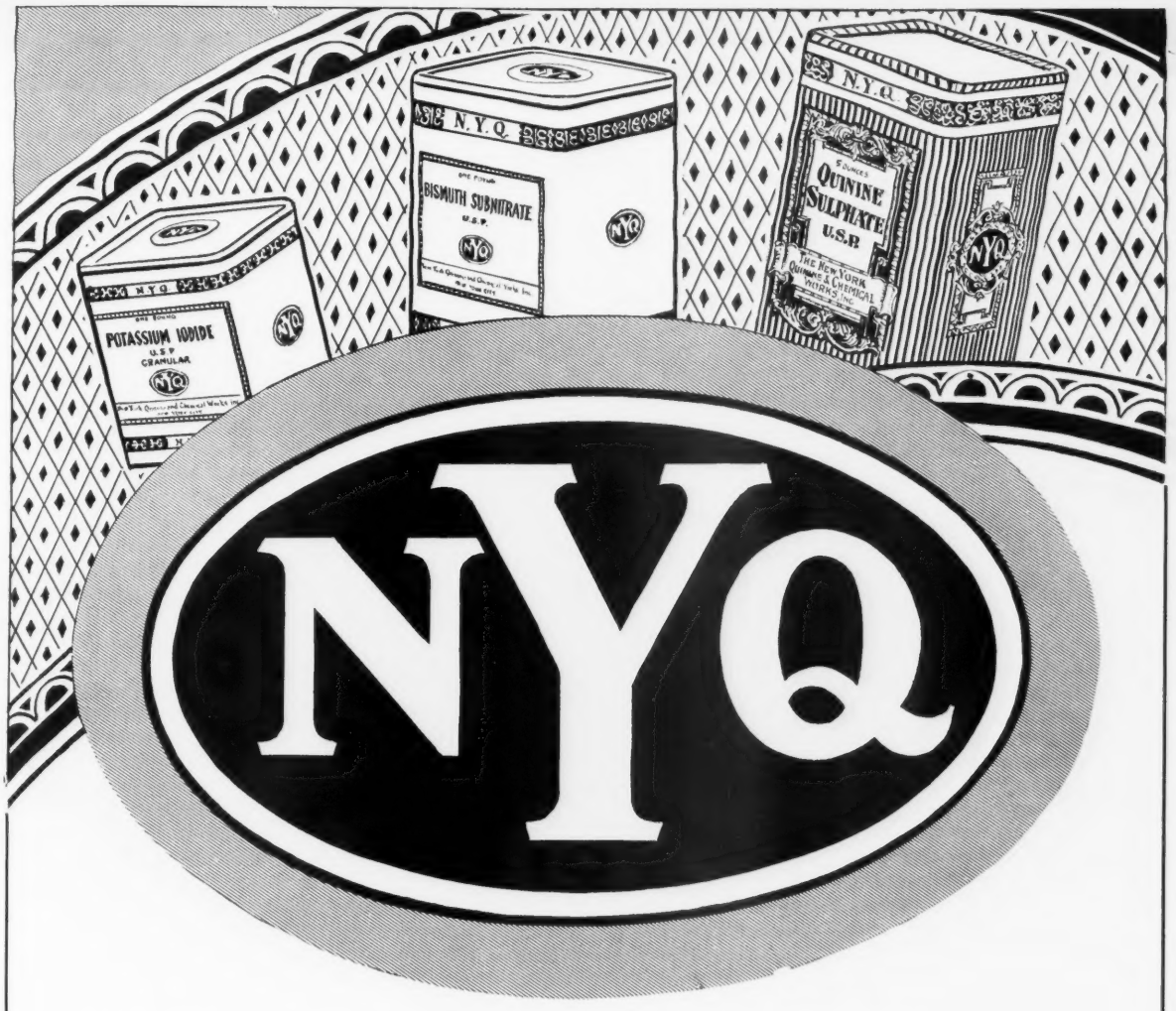
Imports of crude iodine into the United States for the first four months of 1929 amounted to 256,738 pounds, valued at $932,315, and during the same period of 1930 to 137,534 pounds, valued at $498,828.

Beeswax Market Glutted

Beeswax is reported in heavy supply here with insufficient business to keep it moving. So long as demand is as dull as at present no improvement can be expected and there is every reason to believe that lower figures will prevail. Prices on Japanese wax seem to be pegged, but it is difficult to forecast whether this is a temporary or permanent condition.

Eucalyptus oil U. S. P. has been reduced to 42 c and 43c per lb. The lower import duty has cut the spot price here. Oil is in fair demand.

	Current Market	1930 High	1930 Low	1929 High	1929 Low
Colchicino Alk, USP, 1 oz vl.oz.	...	20.00	20.00	20.00	20.00
Salicylate, 1 oz vls.....oz.	...	35.50	35.50	35.50	35.50
Cream Tartar, USP, 300 lb bbls ..... lb.	.27½	.27½	.27½	.28	.26½
Imp. powd. 224 lb bbls....lb.	.25¼	.25¼	.25¼	.25¼	.27 .25¼
Creosote, USP, 42 lb cbys....lb.	.45	.47	.47	.40	.42 .40
Carbonate, 150 lb.....lb.	1.50	1.60	1.60	1.50	1.60 1.50
Cresol, USP, 400 lb drums...lb.	...	.20	.20	.20	.20 .20
500 lb drums.....lb.	.14	.17	.20	.14	.20 .20
DIGITALIN Pure, 1 oz vial.oz	15.00	15.50	15.50	15.00	15.50 15.00
Dover's Powder, USP, 5 lb tin ..... lb.	2.75	2.80	2.80	2.45	2.50 2.45
Duboisine Sulfate, 1 oz vl....oz.	35.00	40.00	40.00	35.00	30.07 30.07
Emetine Alk, 15 gr vial.....oz.	...	.85	.85	.85	.85 .85
Hydrochloride, USP, 1 oz vl ..... oz.	25.00	26.00	36.00	25.00	36.00 35.00
15 grain vials.....oz.	2.50	2.70	2.70	2.50	2.70 2.50
Epsom Salts, USP, 200 lb bbls ..... 100 lb.	2.25	2.50	2.50	2.25	2.50 2.25
Imp. 100 lb bbls.....100 lb.	2.30	2.35	2.35	1.95	2.00 1.95
Ergotin Bonjean, 1 lb jars...lb.	18.50	19.00	19.00	18.50	19.00 18.50
Eserine Alk, 1 oz vials.....oz	...	50.00	50.00	50.00	50.00 50.00
Salicylate, 1 oz vials.....oz.	...	40.00	40.00	40.00	40.00 40.00
Sulfate, USP, VIII 1 oz vials ..... oz.	...	40.00	40.00	40.00	40.00 40.00
ETHER, USP, 55 lb drums..lb.	...	.16	.18	.16	.18 .18
Anaesthesia, 55 lb drums..lb.	.21	.23	.23	.21	.23 .23
Nitrous, 1 lb bot.....lb.	...	.80	.98	.80	.98 .80
Ethyl Chloride, 200 lb bot...lb.	.22	.24	.24	.22	.24 .22
Ethyl Iodide, 5 lb bot.....lb.	...	6.25	6.25	6.25	6.25 6.25
Formaldehyde, USP, 100 lb cbys lc-l wks.....lb.	.09½	.09¾	.10¾	.09¼	.10¾ .09¾
Gall Extract.....lb.	.20	.21	.21	.20	.21 .20
GLANDULAR SUBSTANCES					
Duodenal Substance, 1 lb lots	...	5.50	5.50	5.50	... ...
Liver Substance (Hepatic) 1 lb lots.....	...	4.50	4.50	4.50	... ...
Orchic Substance (Testicular)	...	4.75	4.70	4.75	... ...
Ovarian Substance, whole, 1 lb lots.....	...	26.00	26.00	26.00	... ...
Ovarian Residue, 1 lb lots...	...	20.00	20.00	20.00	... ...
Pituitary Substance, whole 1 lb lots.....	...	40.00	40.00	40.00	... ...
Pituitary Substance, Anterior Lobe, 1 lb lots.....	...	27.00	27.00	27.00	... ...
Thyroid, U. S. P., 1 lb lots...	...	4.75	4.75	4.75	... ..
Oxgall Powder, 1 lb lots....	...	1.35	1.35	1.35	... ...
GLYCERIN, CP, 550 lb drums ..... lb.	...	.13½	.14	.13½	.15½ .13¾
Gold Chloride, bottles.....oz.	12.00	12.50	12.50	12.00	12.50 12.00
Guaiacol, liq. USP. 100 lb, cbys..... lb	1.65	1.75	1.75	1.65	1.75 1.65
Crystals..... lb	2.25	2.50	2.50	2.25	2.50 2.25
Benzoate, 1 lb bottles.....lb.	...	13.00	13.00	13.00	13.00 13.00
Carbonate, 5 lb boxes....lb.	1.70	2.50	2.50	1.70	2.50 1.70
Halazone, 5 lb bot.....lb.	2.75	3.25	3.25	2.75	3.25 2.75
Hexamethylenetetramine, USP, 100 lb dr.....lb.	.46	.47	.56½	.46	.62½ .48
Homatropine Hydrobrom USP. ..... oz.	...	14.50	14.50	14.50	14.50 14.50
5 oz and 1 oz vials.....oz.	...	13.50	13.50	13.50	13.50 13.50
Hydrastine Alk, USP, 1 oz vial ..... oz.	20.50	21.00	21.00	20.50	21.00 20.50
Hydrochlide, USP, 1 oz vials ..... oz.	20.50	21.00	21.00	20.50	21.00 20.50
Sulfate, 1 oz vial.....oz.					
Hydrastinine Hydrochloride, USP, 15 gr vials.....oz.	22.50	23.00	23.00	22.50	23.00 22.50
Hydrogen Peroxide, USP, soln 375 lb bbls.....lb.	...	40.00	40.00	40.00	40.00 40.00
Hyoscine Hydrobrom, USP, 1 oz vials..... oz.	.03¼	.04½	.04½	.03¼	.04½ .03¼
5 oz, 1 oz vials.....oz.	13.07	13.57	13.57	13.07	13.57 13.57
Hyoscyamine Alk, crystals, 1 oz vials.....oz.	...	25.07	25.07	25.07	25.07 25.07
Amorphous, 1 oz vial...oz.	...	75.07	75.07	75.07	75.07 75.07
Hydrobromide, USP, 1 oz vial ..... oz.	...	25.00	35.07	25.00	35.07 35.07
Sulfate, 1 oz vial.....oz.	...	25.07	25.07	25.07	25.07 25.07
Hypoquinone, 100 lb kegs...lb.	...	1.20	1.25	1.20	1.25 1.20
ICHTHYOL, tins.....lb.	4.00	4.25	4.25	4.00	4.25 4.00
Iodide Arsenous, 5 lb bot .lb.	...	5.20	5.20	5.20	5.20 5.20
Arsenous-Mercuric soln, 5 lb bot.....ql	...	.26	.26	.26	.26 .26
Iodine, crude, 200 lb kegs...lb.	4.35	4.35	4.35	4.35	4.35 4.35
Resublimed, 10 lb tars....lb.	4.65	4.70	4.70	4.65	4.70 4.65
Tincture demis.....gal.	...	4.50	4.80	4.50	4.80 4.50
Iodoform, powd 10 lb bot...lb.	...	6.50	6.50	6.00	6.00 6.00
Iron & Ammonium Citrate, USP, 50 lb cans.....lb.	.65	.66	.66	.65	.66 .64
Chloride, USP, lump 400 lb bbls.....lb.	.06	.08	.08	.06	.08 .06
Citrate, USP, VIII 25 lb can ..... lb.	.94	1.01	1.01	.94	1.01 .94
Hypophosphite, 5 lb cans..lb.	1.55	1.65	1.65	1.55	1.65 1.55
Iodide, 1 lb bottles.....lb.	...	4.28	4.28	4.28	4.28 4.28
Phosphate, USP, 50 lb cans ..... lb.	...	.69	.69	.69	.69 .69
& Potas Oxalate, 250 lb bbl ..... lb.	...	.45	.45	.45	.45 .45
Pyrophosphate, USP, 50 lb ..... lb.	.74	.80	.80	.74	.80 .74
& Sod Oxalate, 24 lb box...lb.	...	.30	.30	.30	.30 .30
Sulfate, USP, crys bbls....lb.	.04	.04½	.04½	.04	.04 .04½
Ferrous dried bbls.....lb.	...	.08	.08	.08	.08 .08
Valerate, tins.....lb.	2.75	3.00	3.00	2.75	3.00 2.75



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Codeine Sulphate
Codeine Phosphate
Cinchonidine
Morphine Sulphate
Ethyl Morphine
Iodoform
Glycerophosphates
Opium
Potassium Iodide
Quinine Sulphate
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{ Monthly Review }

Italian Citric Acid Threatened

A commission has been formed in Italy to concentrate the manufacture of citric acid in one locality, and eliminate a severe crisis, caused by excessive competition, which was affecting the price of the raw material, calcium citrate, states "Chemist and Druggist." The latter is regulated by a state commission, the Citrus Products Chamber, which controls production of this basic material. This centralization has made it possible to raise the price of citric acid so as to produce an adequate return for capital invested, as well as to increase the price of calcium citrate 40 per cent. Nevertheless, a serious peril still threatens the citric acid industry—the synthetic production. This is already manufactured on a large scale in America, as well as in Belgium. The cost of the synthetic product is very low, and if the two products met in competition it would lower the cost of calcium citrate to such an extent that it would no longer be possible to utilize citrus fruits in its production. The Italian factories, foreseeing this possibility, have obtained an interest in the European synthetic products industry, and are working to avoid a clash between the two interests.

Sicilian exports of citrate of lime during 1929 aggregated 1,728,783 kilos, valued at 10,515,237 lire, compared with 647,029 kilos, valued at 4,174,007 lire in 1928. (Average value of lira in 1928 —$0.0526; in 1929—$0.0523 United States currency.) The following figures show the amounts, destinations, and values of shipments in 1929: France, 703,607 kilos, valued at 4,258,841 lire; Great Britain, 1,019,786 kilos, worth 6,226,796 lire; and Spain, 5,390 kilos, having a value of 29,600 lire. (Consul H. K. Travers, Palermo.)

Vanillin Cut Sharply

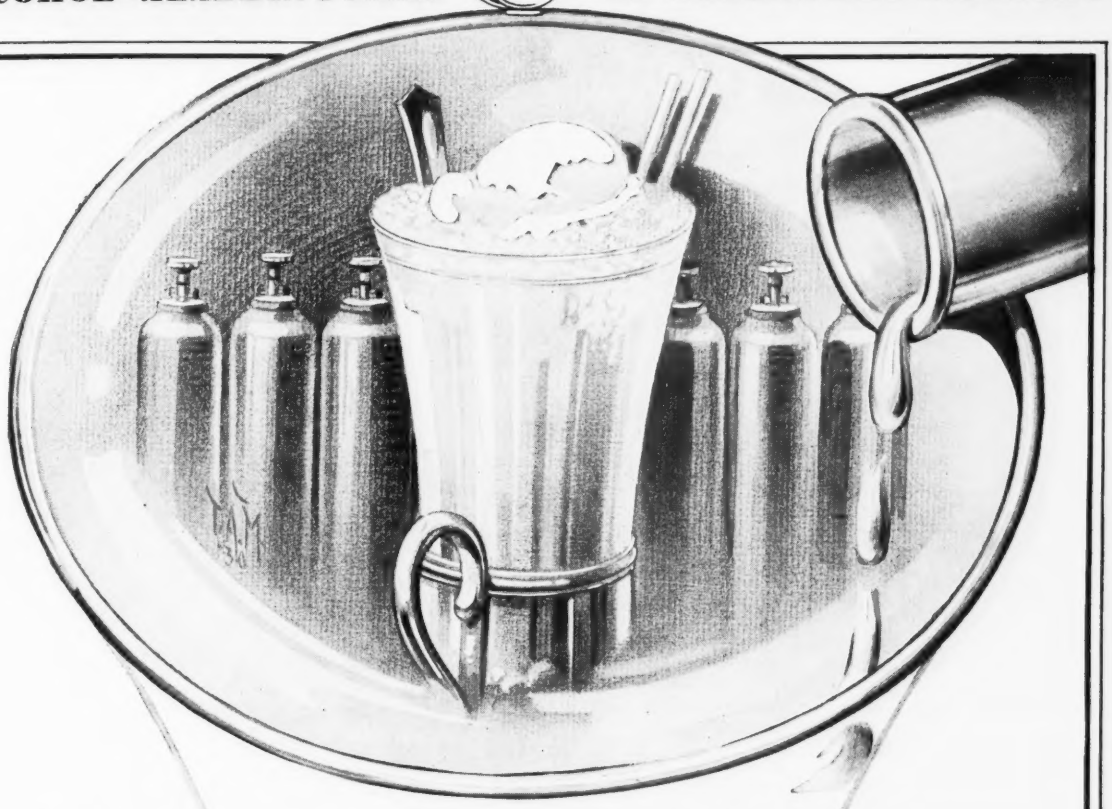
The price of vanillin, from guaiacol, has been reduced as follows: $4.50 per lb. in 1,000 lb. lots, $4.75 per lb. in 500 lb. lots, $5.00 per lb. in 100 lb. lots, $5.25 per lb. in 25 lb. lots. One pound cans are 15c per lb. additional. These substantial reductions were made possible by an improved manufacturing position. No price change has been made in vanillin produced from cloves but it is logical to assume that this commodity will be reduced accordingly as the disparity between the two grades is now too large.

Italian Synthetic Camphor

The only Italian synthetic camphor plant, owned and operated by the Soc. Marengo, has recently passed into the hands of the Italgos group of Turin. At first there seemed to be some question whether the production of synthetic camphor, which it is said had been unremunerative, would be continued. However, it is now stated that under the new management production of synthetic camphor will not cease. Mr. De Simoni of the Schiapparelli will devote himself particularly to the expansion of the synthetic camphor plant of the Marengo. It is further stated that the plants have a productive capacity of from 500 kilos to 600 kilos in 24 hours. Production in 1929 averaged about 400 kilos per day, or a total for the year of approximately 120 tons. Ninety tons or about 75 per cent. of the production were exported to the United States at from 22 to 24 lire per kilo. (Trade Commissioner Elizabeth Humes, Rome.)

	Current Market	1930 High	1930 Low	1929 High	1929 Low
Jalap Resin, USP lumps, 5 lb tins....lb.	...	4.00	4.00	4.00	4.00
Powdered, tins....lb.	...	4.65	4.65	4.65	4.65
Lead Acetate, USP, 100 lb kegs ....lb.	.16½	.19½	.18	.15	.19½	.15
Iodide, USP, VIII 5 lb bot. lb.	3.20	3.40	3.40	3.20	3.40	3.20
Lecithin, 5 oz jars....oz.	1.00	1.30	1.30	1.00	1.30	1.00
Licorice Ext Mass, cases....lb.	.19	.20	.20	.19	.20	.14
Compound powder, bbls...lb.	.11	.13	.13	.11	.13	.11
LITHIUM CARBONATE, 250 lb bbls....lb.	1.35	1.45	1.60	1.35	1.60	1.50
Citrate, USP, 100 lb kegs..lb.	...	1.70	1.70	1.70	1.70	1.70
Iodide, 5 lb bottles....lb.	...	5.65	5.65	5.40	5.40	5.40
Lobeline Sulfate, ¼ oz vial...oz.	...	8.75	8.75	8.75	8.75	8.75
Magnesium Carbonate, USP, 100 lb bbls....lb.	.08	.09	.10½	.08	.12	.10½
English, oz blocks....oz.	.16	.18	.18	.16	.18	.16
Glycerophosphate, 5 lb tins ....lb	3.20	3.25	3.25	3.20	3.25	3.20
Hypophosphite, 5 lb cans..lb.	1.15	1.20	1.20	1.05	1.05	1.05
Salicylate, 100 lb kegs....lb	...	1.10	1.10	1.10	1.10	1.10
Stearate, bbls....lb.	.23	.25	.25	.23	.25	.23
Manganese Glycerophosphate, 5 lb tins....lb.	2.90	3.00	3.00	2.90	3.00	2.90
Hypophosphite, USP, VIII 5 lb cans....lb.	1.35	1.40	1.40	1.35	1.40	1.35
Iodide, 1 lb bottles....lb.	6.40	6.65	6.65	6.40	6.65	6.40
MENTHOL, USP, 60 lb cases ....lb.	4.10	4.25	4.50	4.00	6.00	4.35
Synthetic, cases....lb.	3.00	3.25	3.25	3.00	3.25	3.00
Mercury Metal, 75 lb flasks...fl.	120.00	121.00	124.50	112.00	126.00	121.50
Bichloride, crys 25 lb box..lb.	...	1.81	1.81	1.81	1.81	1.81
Gran powd, 100 lb kegs..lb.	...	1.65	1.65	1.65	1.65	1.65
Bisulfate, 25 lb boxes....lb.	...	1.62	1.62	1.62	1.62	1.62
Blue Mass, 25 lb boxes....lb.	...	1.03	1.03	1.03	1.03	1.03
Powd, 25 lb boxes....lb.	...	1.04	1.04	1.04	1.04	1.04
Blue Ointment, USP, 50%, 25 lb cans....lb.	...	1.29	1.29	1.29	1.29	1.29
Mild 30%, 25 lb cans....lb.	...	.92	.92	.92	.92	.92
33 1/3% mercury....lb.	...	.94	.94	.94	.94	.94
Calomel, 50 lb boxes....lb.	...	2.05	2.05	2.05	2.05	2.05
English....lb.	2.75	2.80	2.80	2.75	2.80	2.75
Iodide, green, 25 lb jars....lb.	...	4.80	4.80	4.80	4.80	4.80
Red, USP, 25 lb jars...lb.	...	4.89	4.89	4.89	4.89	4.89
Yellow, USP, VIII, 25 lb jars....lb.	4.80	4.80	4.80	4.80	4.80	4.80
Red precip, USP, 25 lb boxes ....lb.	2.17	2.17	2.17	2.17	2.17	2.17
Powd., USP, 25 lb boxes.lb.	2.17	2.17	2.17	2.17	2.17	21.7
White precip, USP, 25 lb boxes....lb.	...	2.20	2.20	2.20	2.20	2.20
Powd., USP, 25 lb boxes.lb.	...	2.25	2.25	2.25	2.25	2.25
Salicylate, 25 lb bot....lb.	...	2.32	2.32	2.32	2.32	2.32
With chalk, USP, 25 lb boxes ....lb.	...	.93	.93	.93	.93	.93
Methanol, Pure 1c-1 drs...gal	...	.54	.57	.54	.57	.57
Methyl Salicylate, USP, 50 lb cans....lb.	.40	.42	.42	.40	.45	.40
Methylene Blue, USP, med 5 lb cans....lb	2.00	2.05	2.05	2.00	2.05	2.00
Milk powd, 150 lb bbls....lb.	.09	.12	.15	.09	.15	.14
MORPHINE Alk, 5 oz tin...oz.	10.90	10.95	11.35	10.90	11.35	9.85
Acetate, 5 oz tins....oz.	8.75	8.80	9.35	8.75	9.35	7.85
Hydrobromide, 5 oz tins, 10 oz lots....oz.	8.75	8.80	9.35	8.75	9.35	7.85
Hydrochloride, 5 oz tins, 10 oz lots....oz.	8.75	8.80	9.25	8.75	9.25	7.85
Ethyl Hydrochloride, 5 oz tins 10 oz lots....oz.	...	10.85	10.85	10.85	10.85	9.35
Sulfate, 5 oz tins, 10 oz lots ....oz.	8.75	8.80	8.85	8.75	8.85	7.85
Naphthalene Flake, 175 lb bbls wks....lb.	.04½	.05	.05	.04½	.05	.04½
Balls, 250 lb bbls wks....lb.	.05½	.06	.06	.05½	.06	.05
Oxgall, Purified, 5 lb bot....lb.	1.75	2.50	2.50	1.75	2.50	1.75
USP, 5 lb bot....lb.	2.00	2.50	2.50	2.00	2.50	2.00
Oxyquinoline Sulfate, tins...lb.	8.50	9.25	9.25	8.50	9.25	8.50
Pancreatin, USP, 100 lb....lb.	...	1.90	1.90	1.90	1.90	1.90
Paraffin, refd, 200 lb cs slabs 118-120 deg MP....lb.	.08	.09	.09	.08	.09	.08
128-132 deg MP....lb.	.07½	.07½	.07½	.07½	.07½	.07½
Para-Aldehyde, USP, 100 gal drums....lb.	.67	.77	.77	.67	.77	.67
Pepsin, USP, 100 lbs. 1:3000.lb.	...	2.25	2.25	2.25	2.25	2.25
100 lbs. 1:6000....lb.	...	4.00	4.00	4.00	4.00	4.00
100 lbs. 1:10000....lb.	...	6.50	6.50	6.50	6.50	6.50
Peptone, powd, 5 lb bot....lb.	...	...	...	...	...	...
PHENOLPHTHALEIN, USP, 100 lb drums....lb.	1.10	1.20	1.20	1.10	1.20	1.10
5 lb cans 100 lb lots..lb.	1.23	1.30	1.30	1.23	1.30	1.23
Pilocarpine Hydrochloride, USP, 1 oz vials 25 oz lots ....oz.	...	3.25	3.25	3.25	3.25	3.25
Nitrate, 25 oz lots....oz.	...	3.25	3.25	3.25	3.25	3.25
Single ounce....oz.	...	3.50	3.50	3.50	3.50	3.50
Alkaloid, 15 gr vials....vl.	...	.75	.75	.75	.75	.75
Piperazine Hydrate, 1 lb bot.lb.	...	15.00	15.00	15.00	15.00	15.00
Piperadine, 25 oz bottles....lb.	...	8.00	8.00	8.00	8.00	8.00
Popodhyllin 5 lb bottles....lb.	4.35	4.50	4.50	4.35	4.50	4.35
Potassium Acetate, USP, 100 lb kegs....lb.	.29	.30	.30	.29	.30	.29
Bicarb, USP, crys 320 lb bbls ....lb.	.09½	.10	.13½	.09½	.13½	.08½
Bromide, USP, crys 100 lb cs ....lb.	.42	.43	.43	.42	.40	.39
Citrate, USP, 50 lb bbl....lb.	.51	.53	.53	.51	.55	.51
Guaiacol Sulfonate....lb.	1.95	2.25	2.25	1.95	2.25	1.95

ALCOHOL—ALADDIN'S LAMP OF MODERN DAY INDUSTRY



The Breath of an Industry

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{ Monthly Review }

Italy Exports More Tartaric

Argentina is the best market for Italy's foreign shipments of tartaric acid, whereas the United Kingdom buys the bulk of Italy's exports of cream of tartar and crude tartar. The following statistics show Italian exports to the principal markets during 1929:

Destination	Tartaric acid 1928	Tartaric acid 1929	Cream of tartar 1928	Cream of tartar 1929
Austria	...	...	...	...
Czechoslovakia	686	1,158	...	...
France	3,285	5,168	...	...
Germany	663	685	83	249
United Kingdom	4,771	6,213	9,021	11,462
Netherlands	221	174	130	43
Rumania	1,365	1,725	...	...
Japan	501	746	951	1,190
India and Ceylon	1,301	1,110	...	...
Algeria	289	1,871	...	...
Argentina	10,363	11,415	...	...
United States	2,142	2,840	110	594
Other countries	9,042	8,217	2,247	1,989
Total	34,629	41,322	10,295	15,527

U. S. Takes Molasses

About one-tenth of San Juan's annual production of molasses was utilized for distilling industrial alcohol and the remainder was shipped to the United States as raw material for the same product. Although enjoying a natural advantage in the manufacture of industrial alcohol, Porto Rican distillers are unable to capitalize fully upon it.

During 1929, there were sent 1,050,488 gallons of alcohol, valued at $431,402, to the United States, an increase over 1928 when the figures were 754,315 gallons, worth $268,447. In 1927 the shipments amounted to 712,275 gallons but they were valued at $310,911. Shipments to the United States represent from 90 to 95 per cent. of the island's production, as very small quantities are utilized locally. All of the 1929 production was the output of one distillery. (Assistant Trade Commissioner Darwin De Golia, San Juan.)

More Orris and Rose

As will be noted in the accompanying table the quantity of orris root and rose leaves exported to this country from French Morrocco, underwent a substantial increase during 1930. It is also noted that the import value per pound of orris root increased from approximately $0.07 to $0.175 per pound. The following table shows the quantity and value of the exports of the subject products to the United States during the past two years:

	1928 Pounds	1928 Value	1929 Pounds	1929 Value
Orris root	9,800	$691	20,000	$3,500
Rose leaves	5,250	1,710	18,000	4,100

The growth of trade in these and allied products has been marked since the establishment of a regular line of American steamers between the port of Casablanca and the northern Atlantic ports of the United States. (Vice Consul F. F. Henrotin, Casablanca.)

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	Current Market	1930 High	1930 Low	1929 High	1929 Low
Potassium Hypophosphite, 10 lb. cans lb.	.80	.85	.85	.80	.85	.80
Iodide, USP, 100 lb cases lb.	3.25	3.30	3.30	3.25	3.55	3.25
Lactophosphate, 4 oz bot. lb.	...	.90	.90	.90	.90	.90
Permangan, USP, crys, 100 lb drs wks lb.	.15	.15½	.15½	.15	.15½	.15
Phosphate dibasic pure, kegs lb.	...	.49	.49	.49	.49	.49
Salicylate, 25 lb cans lb.	...	1.18	1.18	1.18	1.18	1.18
Sulfate, USP, VIII, 100 lb kegs lb.	.13	.15	.15	.13	.15	.13
Sulfocyanide, CP 15 lb jars lb.	...	.50	.50	.50	.50	.50
Tartrate, CP, tins lb.	...	.65	.65	.65	.65	.65
Pyrogallol, USP, see Acid Pyrogallic	...	...	...	...	...	...
Quinidine Alk, 100 oz tins oz.	.70	.75	.75	.70	.75	.70
Sulfate, 100 oz tins oz.	...	.50	.50	.50	.50	.50
QUININE SULFATE, USP, 100 oz tins oz.	...	.40	.40	.40	.40	.40
1 oz tins, 100 oz lots oz.	...	.47	.47	.47	.47	.47
Dutch, 100 oz tins oz.	...	.40	.40	.40	.40	.40
Java, 100 oz. tins oz.	...	.40	.40	.40	.40	.40
Japanese 100 oz tins oz.	...	.40	.40	.40	.40	.40
Acetate oz.	...	.74	.78	.74	.78	.78
Arsenate oz.	...	.76	.78	.76	.78	.78
Benzoate oz.	...	.74	.78	.74	.78	.78
Bisulfate, USP oz.	...	.40	.40	.40	.40	.40
Resale oz.	...	.39	.39	.39	.39	.37
Citrate oz.	...	.51	.51	.51	.51	.51
Dicarbonate, 1 oz tins oz.	...	2.56	2.56	2.56	2.56	2.56
Dihydrobromide oz.	...	.54	.54	.54	.54	.54
Dihydrochloride, USP oz.	...	.54	.54	.54	.54	.54
Ethyl Carbonate, 16 oz tins oz.	...	.70	.70	.57	.58	.58
Ferrocyanide oz.	...	.74	.78	.74	.78	.78
Formate oz.	...	.73	.73	.73	.73	.73
Glycerophosphate oz.	...	.72	.80	.72	.80	.80
Hydrobromide, USP oz.	...	.50	.50	.50	.50	.50
Hydrochlorosulfate oz.	...	.50	.54	.50	.54	.54
Hydrochloride & Urea, USP oz.	...	.74	.74	.74	.74	.74
Hypophosphite oz.	...	.70	.70	.70	.70	.70
Lactate oz.	...	.66	.66	.66	.66	.66
Phenolsulfonate oz.	...	.78	.78	.78	.78	.78
Phosphate oz.	...	.62	.62	.62	.62	.62
Salicylate, USP oz.	...	.52	.52	.52	.52	.52
Tannate, USP oz.	...	.41	.41	.41	.41	.41
Tartrate oz.	...	.74	.78	.74	.78	.78
Valerate oz.	...	.78	.78	.78	.78	.78
& Urea Hydrochloride, USP oz.	...	.88	.88	.88	.88	.88
Rennet, N. F. 5 lb 1:25,000 lb.	2.95	3.50	3.50	2.95	3.50	2.95
Resorcinol, USP, 25 lb cans lb.	1.60	1.65	1.65	1.60	1.75	1.65
Rochelle Salt, USP, 225 lb bbl lb.	.22	.22½	.23½	.22	.23½	.23
Imp. USP, 300 lb bbls lb	...	.23	.23	.23	.23	.23
Rock Sugar, 5 lb boxes lb.	...	.15	.15	.15	.15	.15
Saccharin, USP, 10 lb cans lb.	1.70	1.80	1.80	1.70	1.80	1.70
USP, Soluble, 10 lb cans lb.	1.75	1.85	1.85	1.75	1.85	1.75
Salicin, USP lb.	...	12.50	12.50	9.31	9.31	4.86
SALOL, USP, 100 lb drums lb.	...	.90	.90	.90	.90	.90
Saltpetre, powd, bbls wks lb.	.06½	.08¼	.08¼	.06½	.08¼	.06½
Santonin, USP, bulk lb.	123.00	133.00	133.00	129.50	129.50	129.50
Saponin, refined lb.	1.30	1.50	1.30	1.50	1.30	1.30
Siedlitz Mixture, 250 lb bb. lb.	...	.17¾	.17¾	.17¾	...	...
Silver Metal, American oz.	...	.42¼	.57¾	.42¼	.57¾	.57¾
Iodide, 16 oz lots oz.	...	.69	.69	.69	.69	.69
Nitrate, 100 oz bottles oz.	.32¼	.34¼	.42½	.32¼	.42½	.40½
Nucleinate, bulk oz.	...	.37	.37	.37	.37	.37
Proteinate oz.	.39	.41	.41	.32	.32	.32
SODIUM BENZOATE, USP, 100 lb bbls lb.	.45	.49	.49	.45	.49	.45
Bromide, USP, 100 lb kegs lb.	.42	.43	.43	.42	.43	.42
Cacodylate, USP, 25 lb bot lb.	4.75	5.90	5.90	4.75	5.90	4.75
Citrate, USP, X 50 lb kegs lb.	.45	.47	.47	.45	.47	.45
USP VIII, 50 lb kegs lb.	.38	.40	.40	.38	.40	.38
Glycerophosphate, USP, crys 25 lb cans lb.	1.40	1.55	1.55	1.40	1.55	1.40
Powder, 25 lb tins lb.	1.45	1.60	1.60	1.45	1.60	1.45
Soln, USP, 25 lb tins lb.	1.05	1.20	1.20	1.05	1.20	1.05
Hypophosphite, USP, 25 lb cans lb.	.70	.75	.75	.70	.75	.70
Iodide, USP, 25 lb jars lb.	4.25	4.30	4.30	4.25	4.30	4.25
Phosphate (Mono-Sodium), 100 lb kegs lb.	.30	.31	.31	.30	.31	.30
Di-Sodium USP, granular, 275 lb bbls lb.	.07½	.08	.08	.07½	.08	.07¼
Pyrophosphate, 100 lb kegs lb.	...	.29	.29	.29	.29	.29
Salicylate, 100 lb kegs lb.	...	.47	.47	.47	.47	.47
Sulfocarbolate, USP, 100 lb kegs lb.	...	.31	.31	.31	.31	.31
Sulfocyanate, CP crys, jars included lb.	...	.60	.60	.60	.60	.60
Spartein Sulfate, USP, 25 oz bulk oz.	.65	.70	.70	.65	.70	.60
Single oz vial oz.	.77	.90	.90	.77	.90	.77
STRONTIUM BROMIDE USP, 50 lb kegs lb.	.51	.52	.52	.51	.52	.51
Carb, 100 lb kegs wks lb.	...	.20	.20	.20	.20	.20
Iodide, USP, 25 lb jars lb.	...	4.00	4.00	4.00	4.00	4.00
Lactate, kegs lb.	.90	1.10	1.10	.90	1.10	.90
Nitrate, 600 lb bbls NY lb.	.08	.08½	.08½	.08	.08½	.08
Imp. bbls NY lb.	.08	.08½	.08½	.08	.08½	.08
Salicylate, USP, 100 lb keg lb.	...	1.10	1.10	1.10	1.10	1.10

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{ *Monthly Review* }

Ceylon Citronella Easier

Citronella oil Ceylon is easier at 57c and 59c per lb. The market for Java oil remains unchanged and firm both here and in the primary. Exports of Java citronella oil from Java have declined in a large way being only 61 tons during the month of May as compared to 121 tons for the same month in 1929. Below is given a table of exports of citronella oil from Java in tons of 1,000 kgs. net weight. It is further reported that the coming months of the present year will show a further decline of exports. The spot market is comparatively dull.

	1926	*1927*	*1928*	*1929*	*1930*
January	104	107	104	67½	57
February	100	135	98	72	61
March	118	100	81	107	63
April	105	90	114	82½	73
May	73	90	184	121	61
Total Jan.-May	500	522	581	450	315
June	95	132	109	43	
July	110	94	78	80	
August	81	88	77	77	
September	95	141	58	66	
October	108	96	91	54	
November	93	122	77	41	
December	100	117	72	53	
Total Jan.-Dec.	1,182	1,312	1,143	864	

The American Consul at Colombo describes the situation there as follows:

There was a strong demand for citronella oil in Ceylon throughout the first quarter of 1930 and supplies were very scarce. Prices rose from 1.25 rupees ($0.44 United States currency) per pound at the opening of the quarter to 1.35 rupees ($0.48) at the close, and one broker stated the latter was a nominal quotation and there were no sellers at any price. These prices have brought a good profit to growers and distillers, and one dealer stated this was one of the few spots in Ceylon produce. Easing in prices was expected following the harvesting of the new crop.

Exports of citronella oil from the island during the quarter under review amounted to 296,280 pounds, valued at $132,278, of which 164,000 pounds, worth $66,800, went to the United States, as against 332,495 pounds, with a value of $121,144, for the same period last year, all of which was destined to the United States. (American Consulate, Colombo.)

Imports of oil of citronella and lemon grass oil into the United States during the first three months of 1929 amounted to 258,883 pounds, valued at $116,056, as against 241,394 pounds, valued at $127,916, for a similar period of the present year.

Peppermint in Buyer's Favor

Peppermint oil is easier due to a depression in the primary market. The new crop prospects are reported as very good and as the harvesting season is nearing the possibility of any damage to it becomes more remote. A buyer's market undoubtedly exists at the source of supply and low prices are expected to exist for some time to come.

Spearmint has been reduced to *$4.10* and *$4.15* per lb. A good crop with lower prices in the primary has eased the situation on spot. Stocks are plentiful.

	Current Market	1930 High	1930 Low	1929 High	1929 Low
Strophanthin, USP, 1 oz vial.oz.	19.00	19.00	19.00	19.00	19.00
Crystals.lb.	75.00	75.00	75.00	75.00	75.00
Strychnine Alk, USP crys, 100 oz tins.oz.	...	.61	.66	.61	.66	.61
Powdered.oz.	...	.51	.56	.51	.56	.51
Acetate.oz.	...	.65	.65	.65	.65	.65
Arsenate, 25 oz cans.oz.	...	.65	.65	.65	.65	.65
Glycerophosphite, USP,..oz.	...	.65	.65	.65	.65	.65
Hydrobromide.oz.	...	.65	.65	.65	.65	.65
Hydrochloride.oz.	...	.65	.65	.65	.65	.65
Hypophosphite.oz.	...	.75	.75	.75	.75	.75
Nitrate, USP.oz.	.55	.72	.72	.55	.72	.55
Phosphate.oz.	...	.65	.65	.65	.65	.65
Sulfate, USP, powd .....oz.	...	.42	.42	.42	.56	.42
Sugar, refined, 275 lb bbl 100 lb	5.80	5.90	5.90	5.80	5.90	5.80
Milk, USP, 200 lb bbls...lb.	.18	.20	.20	.18	.20	.18
Sulfonethylmethane, USP, 10 lb boxes.lb.	3.85	4.05	4.05	3.85	4.05	3.85
Sulonmethane, USP, 10 lb box .....lb.	2.65	3.85	3.85	2.65	3.85	2.65
Sulfur flwrs. washed, USP, 125 lb bbl.lb.	...	.06	.06	.06	.06	.06
Iodide, USP, VIII, 5 lb bot lb.	...	4.55	4.55	4.55	4.55	4.55
TARTAR EMETIC, USP, 300 lb bbls.lb.	.33	.35	.35	.29	.31	.29
Terebene, tins.lb.	...	.85	.85	.85	.85	.85
Terpin Hydrate, USP, 100 lb kegs.lb.	.39	.41	.42	.39	.42	.40
Theobromine Alk, 5 lb cans..lb.	1.90	2.25	2.25	1.90	2.25	1.90
Sod. Salicylate, 1 lb bot...lb.	...	2.10	2.10	2.10	2.10	2.10
Sod. Benzoate, 1 oz vials..oz.	...	1.00	1.00	1.00	1.00	1.00
Thymol, USP, 25 lb tins.....lb.	2.00	2.25	2.70	2.00	2.70	2.25
Iodide kegs.lb.	6.00	7.00	7.00	6.00	7.00	6.00
Veratrine Alkaloid.oz.	...	2.25	2.25	2.25	2.25	2.25
Sulfate, 1 oz vials.oz.	...	2.25	2.25	2.25	2.25	2.25
Witch Hazel Ext., 50 gal bbl .....gal.	.60	.80	1.00	.60	1.00	.80
Zinc Carb, USP, 100 lb keg..lb.	.28	.31	.31	.28	.31	.28
Chloride, USP, 25 jars ex..lb.	.24	.29	.29	.24	.29	.24
Iodide, 5 lb bottles.....lb.	...	5.22	5.22	5.22	5.22	5.22
Oxide, USP, 100 lb bbls...lb.	.13	.14	.17½	.13	.18	.16½
Stearate, USP, 50 lb bbl..lb.	.25	.27	.27	.24	.26	.24
Sulfate, USP, 100 lb bbl..lb.	.08	.09	.09	.08	.09	.08
Sulfocarbolate, 100 lb kegs..lb.	.23	.29	.29	.23	.29	.23

Natural Derivatives

Anethol, 2 lb bot.lb.	1.90	2.15	2.50	1.90	1.30	1.25
Borneol, 1 lb bot.lb.	2.50	3.00	3.00	2.40	2.50	2.40
Carvol, 5 lb bot.lb.	3.60	4.00	4.00	3.50	3.60	3.50
Citral, 25 lb cans.lb.	2.65	4.00	4.00	2.65	2.75	2.70
Citronellal 1 lb bot.lb.	2.00	4.00	4.00	2.00	2.75	2.70
Eucalyptol, USP, 50 lb cans..lb.	.85	.90	1.05	.85	1.05	1.00
Eugenol, USP, 25 lb cans....lb.	3.50	4.00	4.00	2.70	2.75	2.70
Geraniol, domestic, 50 lb cases .....lb.	2.50	2.70	2.70	2.50	2.70	2.50
Imported, 5 lb bot.....lb.	2.90	3.10	3.10	2.90	3.10	2.90
Iso-Eugenol, 1 lb bot.....lb.	3.75	3.80	3.80	3.75	3.80	3.75
Imported, 1 lb bot.....lb.	3.70	3.80	3.80	3.70	3.80	3.70
Linalol from Bois de Rose, 5 lb bot.lb.	3.00	5.00	5.00	3.00	3.25	3.20
Rhodinol, 1 lb bot.....lb.	6.25	20.00	20.00	6.25	7.75	7.50
Saffrol, drums.lb.	.35	.37	.37	.27	.27	.27
60 lb cans.lb.	.37	.39	.39	.29	.29	.29

Synthetic Aromatics

Acetophenene, CP, 1 lb bot..lb.	3.50	3.65	3.65	3.50	3.65	3.50
Aldehyde, C 8 (Otcyl) 1 lb bot .....lb.	...	50.00	55.00	50.00	55.00	50.00
C 7, 1 lb bot.lb.	4.50	5.50	5.50	4.50	5.50	4.50
C 9 (Nonyl), 1 lb bot ....lb.	...	140.00	140.00	140.00	140.00	140.00
C 10 (Decyl), 1 lb bot....lb.	..	48.00	48.00	48.00	48.00	48.00
C 14, 1 lb bot.lb.	..	32.00	32.00	32.00	32.00	22.50
C 16, 1 lb bot.lb.	...	24.00	24.00	24.00	32.00	24.00
Aubepine, see Anisic Aldehyde						
AMYL ACETATE, pure, 5 gal cans.gal.	5.50	6.85	6.85	5.50	6.85	4.75
Butyrate, 1 lb bot.....lb.	1.25	1.50	1.75	1.25	1.75	1.70
Butyrate, 5 lb bot.....lb.	...	1.00	1.75	1.00	1.75	1.75
Cinnamate, 5 lb bot.....lb.	9.50	9.75	9.75	9.50	9.75	9.50
Formate, 1 lb bot.....lb.	...	1.90	1.90	1.90	1.90	1.90
Formate, 5 lb bot.....lb.	...	1.75	1.75	1.75	1.75	1.75
Phenyl Acetate, 1 lb bot...lb.	4.50	5.00	5.00	4.50	5.00	4.50
Salicylate, 100 lb cbys.....lb.	1.25	1.30	1.30	1.25	1.30	1.25
Imported.lb.	2.25	2.50	2.50	2.25	2.50	2.25
Anisic Aldehyde, 1 lb bot....lb.	4.00	4.50	4.50	3.00	3.25	3.00
Benzaldehyde, USP, 40 lb cbys .....lb.	...	...	...	...	...	...
50 lb cbys.lb.	1.45	1.55	1.55	1.25	1.35	1.25
FFC, 40 lb cbys.lb.	1.35	1.45	1.45	1.35	1.45	1.35
Benzoic Ether, see Ethyl Benzoate.....						
Benzophenone, 1 lb bot.....lb.	4.50	5.00	5.00	4.50	5.00	4.50
Benzyl Acetate, 100 lb cbys..lb.	.90	1.10	1.10	.90	1.10	.90
Alcohol, 5 lb bot.....lb.	1.20	1.30	1.35	1.20	1.35	1.25
BENZYL BENZOATE.....	1.15	1.20	1.40	1.15	1.40	1.35
Medicinal, FFC.....lb.	...	1.40	1.40	1.40	1.40	1.40
Buytrate, CP, 1 lb bot....lb.	9.25	9.50	9.50	9.25	9.50	9.25

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But what does it mean in connection with **Petrolatum Liquidum U. S. P., a Medicinal White Mineral Oil ?**

Medicinal White Mineral Oils were originally produced only from Russian Crude Oil. As usual with oils made of the same crude, the higher the Viscosity, then the higher will be the Specific Gravity. Therefore, formerly it was sufficient to classify and sell Medicinal White Mineral Oils on the basis of the Specific Gravity; and of two such oils, the one with the highest Specific Gravity was the better, provided both oils were equally pure. This method, however, does not hold good when comparing oils of different origin, as then the Specific Gravity figure, as a valuation of the oil as a lubricant for either internal or external purposes, ceases to apply; at least such comparisons are likely to lead to serious mistakes.

ALBINOL, Genuine Russian White Medicinal Oil (Petrolatum Liquidum U. S. P.) refined from Russian Oil has a Saybolt Viscosity of about 325" at 100°F and a Specific Gravity of about .885. White Medicinal Oils of different origin have, for example, a Specific Gravity of .890 and higher, but a Saybolt Viscosity of only 300" or less at 100°F. It therefore results that if a different base crude oil is used for the manufacture of Petrolatum Liquidum U. S. P., it is incorrect to judge the value of an oil by the Specific Gravity. It is the **Viscosity** which determines the value of a lubricant; therefore the basis **must** be the Viscosity, and the oil with the highest Viscosity is the most valuable.

Schliemann Companies, Inc.
53 Park Place, New York, N. Y.

REFINERY IN HAMBURG, GERMANY

{ Monthly Review }

Citrus Oils Output Up

Unfortunately no official production figures are available later than 1925-26 for oil of lemon and bergamot. Later production figures must be regarded as little more than trade estimates. In 1925-26, 570,830 kilos of lemon oil and 100,700 kilos of bergamot oil were produced. The 1928-29 lemon crop was poor and production of lemon oil was below normal. That of bergamot oil was high and in addition the campaign opened with heavy stocks of this latter oil. Owing to the abundant crop of lemons and the slack demand for the fresh fruit, production of lemon oil during the current season is estimated at more than double the 1928-29 production. The carry-over of lemon oil from last year was small, but abundant offers of this year's oil have been reflected in the falling market.

The situation with regard to oil of bergamot is critical. There was a heavy carry-over from the past season and an abundant production during the current year. Producers have invoked government intervention.

The best available estimates of production of various oils are given below:

The best available estimates of production of various oils are given below:

	1927-28 Kilos	1928-29 Kilos	1929-30 Kilos
Lemon	570,000	450,000	1,043,000
Bergamot	†	81,000	150,000
Sweet orange	136,000	136,000	114,000

†No figure available. (One kilo equals 2.204 pounds.)
(Trade Commissioner Elizabeth Humes, Rome.)

A cable from Naples, dated June 3, stated that the Messina essential oil stocks were very heavy but that Palermo stocks were smaller than expected two months ago. Essential oil shipments to the United States from Messina during the first 27 days of May included 54,500 pounds of lemon oil, valued at $58,000, 6,800 pounds of orange oil, valued at $17,000, and 9,700 pounds of bergamot oil, valued at $21,400.

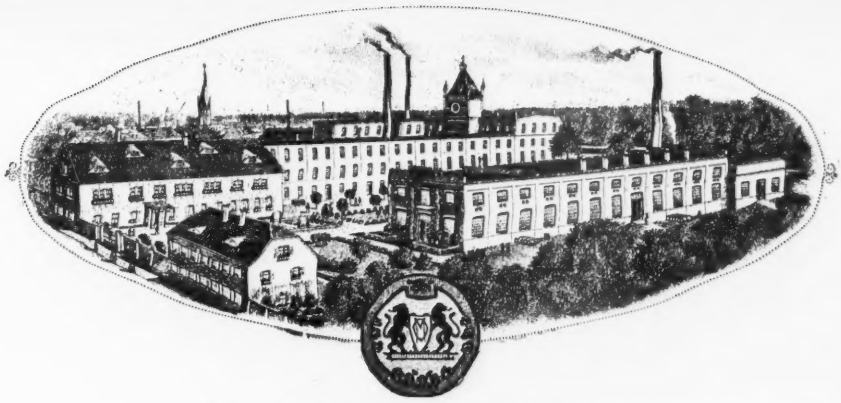
Local prices of Messina essential oils quoted May 25 per Sicilian pound of 315 grams follow: Lemon oil sponge process, 10 to 11.50 lire; sweet orange oil, 26.50 lire; mandarin oil, 45 lire, bergamot oil, 27.50 lire. Messina lemon oil quotations c. i. f. New York for orders accepted in May ranged from $0.90 to $0.95 per pound but shipments were mainly on a basis of cost and freight to New York, ranging from $0.68 to $1.05 per pound and no c. i. f. New York prices were quoted.

A comparison of the foregoing prices with those quoted in the April cable (see this bulletin for May 12) shows an increase per Sicilian pound of approximate two lire for lemon oil sponge process, one lire for sweet orange sponge process, and one-half to one and one-half lire for oil of bergamot. (Average value of the lira is $0.0523 United States currency.) (Consuls at Palermo and Messina.)

Anise oil is lower at 87c per lb. Buying has been in a small way with an easy undertone noticeable.

The market for bergamot is dull with competition noticeable. No change is reported in prevailing prices on spot or for replacement.

	Current Market	1930 High	1930 Low	1929 High	1929 Low
Benzyl Cinnamate, 1 lb bot. lb.	7.00	7.25	9.50	7.00	9.50	9.25
Formate, 1 lb bot. lb.	3.25	3.35	3.35	3.15	3.25	3.15
Propionate, 1 lb bot. lb.	3.60	3.75	3.75	3.60	3.75	3.60
Succinate, 1 lb bot. lb.	5.25	5.50	5.50	5.25	5.50	5.25
Valerate, 5 lb bot. lb.	3.00	3.25	3.25	3.00	3.25	3.00
Bornyl Acetate, 1 lb bot. lb.	2.25	3.35	3.35	2.90	3.00	2.90
Bromstyrol, 25 lb cases. lb.	4.50	4.65	4.65	4.10	4.25	4.10
Butyl Anthranilate dom, 1 lb bot. lb.						
Butyric Ether, see Ethyl Butyrate.						
Cinnamic Acid, 5 lb cans. lb.	3.25	3.50	3.50	3.25	3.50	3.25
Alcohol liquid, 1 lb bot. lb.	3.00	3.10	3.35	3.00	3.35	3.25
Crystallizable. lb.	7.00	8.00	8.00	7.00	8.00	7.00
Aldehyde. lb.	2.25	2.50	2.50	2.25	2.50	2.25
Imported, 1 lb bot. lb.	7.75	9.00	9.00	7.75	9.00	7.75
Citronelyl Acetate, 1 lb bot. lb.	6.00	6.25	8.00	6.00	8.00	7.75
Coumarin, 25 lb cans. lb.	3.50	4.00	4.00	3.50	4.00	3.50
DECYL ALCOHOL. lb.	25.00	28.00	28.00	25.00	28.00	25.00
Diethyl Phthlate see Chemicals						
Diphenyloxide, 25 lb tins. lb.	1.00	1.15	1.15	1.00	1.15	1.00
Diphenyl Methane. lb.	1.75	2.00	2.00	1.50	1.75	1.50
Duodecyl Alcohol. lb.	20.00	22.00	22.00	20.00	22.00	20.00
Ethyl Acetate, pure, 5 lb bot. lb.	.45	.50	.50	.45	.50	.45
Benzoate, 5 lb bot. lb.	1.50	1.75	1.75	1.50	1.75	1.50
Ethyl Butyrate, 5 lb bot. lb.	1.80	2.00	2.00	1.80	2.00	1.80
Caproate, 1 lb bot. lb.	3.25	3.50	3.50	3.25	3.50	3.25
Cinnamate, 1 lb bot. lb.	4.00	4.50	4.50	4.00	4.50	4.00
Formate, 5 lb bot. lb.	1.00	1.25	1.25	1.00	1.25	1.00
Methyl Paracresol, 1 lb bot. lb.	3.25	3.50	3.50	3.25	3.50	3.25
Phenyl Acetate, 5 lb bot. lb.	3.75	4.00	4.00	3.75	4.00	3.75
Valerate, 5 lb bot. lb.	...	3.75	3.75	3.75	3.75	3.75
Salicylate, 5 lb bot. lb.	1.95	2.00	2.00	1.95	2.00	1.95
Formic Ether see Ethyl Formate						
Geranyl Acetate, 1 lb bot. lb.	3.00	3.05	3.25	3.00	3.25	3.20
Butyrate, 1 lb bot. lb.	13.00	13.50	13.50	13.00	13.50	13.00
Formate, 1 lb bot. lb.	12.00	12.50	12.50	12.00	12.50	12.00
Glyco Ester. lb.	1.00	1.10	1.10	.90	1.00	.90
Heliotropin, 100-10 lbs. lb.	1.65	1.75	1.75	1.65	1.75	1.65
Imported. lb.	1.95	2.05	2.05	1.95	2.05	1.95
Hydroxycitronellal, 1 lb. lb.	5.50	7.50	7.50	5.50	7.50	5.50
Indol, CP, 1 oz bot. oz.	2.90	3.00	3.00	2.90	3.00	2.90
IONONE, 1 lb bot 100%. lb.	5.00	6.00	6.00	5.00	6.00	5.00
Alpha. lb.	4.80	5.00	5.00	4.80	5.20	4.80
Beta. lb.	5.70	5.75	5.75	5.70	5.75	5.70
Methyl. lb.	5.75	6.00	6.00	5.75	6.00	5.75
Iso Borneol. lb.	2.25	2.35	2.35	2.15	2.25	2.15
Iso Bornyl Acetate. lb.	3.00	3.20	3.20	2.80	3.00	2.80
Iso-Butyl Benzoate, 5 lb bot. lb.	2.75	3.00	3.00	2.75	3.00	2.75
Iso-Safrol, 1 lb bot imp. lb.	1.75	1.85	1.85	1.65	1.75	1.65
Domestic, 5 lb bot. lb.	3.50	3.75	3.75	3.50	3.75	3.50
Lynalyl Acetate, 1 lb bot. lb.	3.50	4.50	4.50	3.25	4.25	3.25
Benzoate, 1 lb bot. lb.	13.00	14.00	14.00	13.00	14.00	13.00
Formate, 5 lb bot. lb.	10.50	12.00	12.00	10.50	12.00	10.50
METHYL ACETOPHENONE. lb.	3.35	3.50	3.50	3.35	3.50	3.35
Anthranilate, 1 lb bot. lb.	2.45	2.50	2.50	2.40	2.45	2.40
Imported. lb.	2.70	2.75	2.75	2.70	2.75	2.70
Anthranilic Acid. lb.	11.75	12.00	12.00	11.75	12.00	11.75
Benzoate, 5 lb bot imp. lb.	1.75	1.85	1.85	1.75	1.85	1.75
Domestic, 5 lb bot. lb.	1.75	2.00	2.00	1.75	2.00	1.75
Cinnamate, 1 lb bot. lb.	3.75	4.25	4.25	3.75	4.25	3.75
Heptenone, 1 lb bot. lb	6.50	7.00	9.00	6.50	9.00	8.50
Paracresol, 1 lb bot. lb	4.50	8.00	8.00	4.50	8.00	4.50
Phenylacetate, 5 lb bot. lb	3.75	4.00	4.00	3.75	4.00	3.75
Salicylate, USP, 500 lb dr. lb.	...	.40	.40	.40	.40	.40
50 lb cases. lb.	...	.42	.42	.42	.42	.42
Mirbane rect, 1,000 lb drs. lb.	.12	.13	.13	.12	.13	.12
Musk Ambrette 1 lb cans. lb	7.25	7.50	7.50	6.50	6.75	6.50
Ketone 1 lb cans. lb	8.00	8.15	8.15	8.00	8.15	8.00
Xylene 5 lb cans. lb.	2.25	2.35	2.35	2.25	2.35	2.25
Nerolin 1 lb cans. lb.	1.35	1.40	1.40	1.35	1.40	1.35
Octyl Alcohol 1 lb bot. lb.	30.00	32.00	32.00	30.00	32.00	30.00
Oenanthic Ether lb bot. lb.	1.90	2.00	2.00	1.90	2.00	1.90
Paracresol Methyl Ether. lb.	6.50	6.75	6.75	6.50	6.75	6.50
Paracresyl Acetate. lb.	5.50	5.75	5.75	5.50	5.75	5.50
Para Cymene Refd 110 gal dr. gal.	2.25	2.50	2.50	2.25	2.50	2.25
PHENYLACETALDEHYDE 50% 1 lb bot. lb.	4.75	5.00	5.00	4.75	5.00	4.75
Imported 50%. lb.	4.75	5.00	5.00	4.75	5.00	4.75
100%. lb.	8.00	8.25	8.25	8.00	8.25	8.00
Phenylacetic Acid 1 lb bot. lb.	3.50	3.75	3.75	3.00	3.25	3.00
Phenyl Diacetate 1 oz bot. oz.	3.00	3.25	3.25	3.00	3.25	3.00
1 lb bot. lb.	8.00	10.00	10.00	8.00	10.00	8.00
Imported. lb.	7.00	7.75	7.75	7.00	7.75	7.00
Phenylethyl Alcohol 1 lb bot. lb.	4.50	4.75	4.75	4.50	4.75	4.50
Phenyl Ethyl Acetate. lb.	8.25	8.75	8.75	8.25	8.75	8.25
Butyrate 1 lb bot. lb.	15.00	16.00	16.00	15.00	16.00	15.00
Formate, 1 lb bot. lb.	19.00	21.00	21.00	19.00	21.00	19.00
Propionate, 1 lb bot. lb.	16.00	18.00	18.00	16.00	18.00	16.00
Valerate, 1 lb bot. lb.	19.00	20.00	20.00	19.00	20.00	19.00
Phenylpropylalcohol, 1 lb bot. lb.	12.00	12.50	12.50	12.00	12.50	12.00
Skatol, 1 oz bot. lb.	4.50	7.00	7.00	4.50	7.00	4.50
Terpinyl Acetate, 25 lb cans. lb.	.90	.95	.95	.75	.80	.75
Imported, 25 lb cans.	.85	.90	.90	.85	.90	.85
TERPINEOL, CP, 1000 lb drs. lb.	.27	.29	.29	.27	.35	.27
50 lb cans. lb.	.31	.33	.33	.31	.39	.31
Absolute, 25 lb cans. lb.	.48	.50	.50	.48	.50	.48
Imported, 25 lb cans. lb.	.58	.60	.60	.58	.60	.58
Vanillin (Clove Oil), USP. lb.	6.25	6.80	6.80	6.25	7.00	6.00
(Guaiacol) USP. lb.	5.00	5.25	6.55	5.00	7.15	7.15



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{ Monthly Review }

Bulgarian Rose Problematical

A considerable difference of opinion seems to prevail as to the possibilities of the Bulgarian rose crop for 1930. A report has eminated from a reliable source to the effect that the crop is 20 per cent. below last year and that at a meeting of Bulgarian peasant producers and distillers the official price of roses has been established at about ten per cent. higher than the previous season.

This falling off in the crop is reported as due to the insect infestation which has caused much damage to the plants. Drastic steps were taken to prevent this by the Bulgarian Minister of Agriculture in forcing the producers to cut and burn all parts of the plant suffering from the blight. While this was successful to some extent it had the effect of reducing the quantity of roses available for oil. While no change in prices have been made in the spot market it would not be surprising if an advance in the oil paralleling that of the flowers were to be made.

There are other dealers who are of the opinion that the crop is quite normal with a plentiful supply of oil to be available. Final reports on the crop which is now practically completely gathered will undoubtedly clarify this situation. At any rate we may be safe in assuming that prices will not be lower. No change in prevailing spot quotations has been made.

Cedarwood is well maintained at high levels reached in the recent advance. Production is still very low and there is very little possibility of buyers getting a better market for a long time to come. High prices are expected to prevail indefinitely.

Government Control of Bergamot Oil

As a result of representations made by producers concerning the precarious condition of the bergamot oil industry in Reggio Calabria, the Government has decided to intervene in order to control the quality of oil destined for export and to encourage improved methods of bergamot cultivation.

The general plan includes the establishment of a warehouse in Reggio Calabria to receive deposits of bergamot oil, the obligatory issue by a government laboratory of a certificate of analysis as a guaranty of the purity of oil destined for export, and the faculty accorded producers to form an association for the defense of the industry. (Consul Robert R. Bardford, Messina.)

The text of the decree is available to accredited firms upon application to the Chemical Division of the Bureau of Foreign and Domestic Commerce.

Geranium Oil Firm

Geranium oil is stable with no indications on the part of dealers to lower quotations after the advance last month. The Bourbon is selling at $4.25 per lb. Stocks have been rather low on spot although there is a plentiful supply in the primary market. No further increases are looked for and there is a likelihood that when new supplies arrive here an easier tendency can be expected.

	Current Market	1930 High	1930 Low	1929 High	1929 Low
Valerianic Ether see Ethyl Valerate					
Yara Yara, 1 lb cans.....lb.	1.50	1.60	1.50	1.60	1.60

Essential Oils

Almond Bitter, USP, 5 lb bot lb.	2.75	2.85	2.85	2.75	.285	2.70
Bitter, ffPA, 5 lb bot.....lb.	2.85	2.95	2.95	2.85	3.10	2.85
Sweet, 56 lb cans.....lb.	.55	.58	.68	.55	.85	.65
Amber crude, 25 lb tins.....lb.	.20	.22	.35	.20	.35	.33
Rectified, 25 lb tins.....lb.	.52	.55	.55	.52	.55	.52
Angelica Root, 1 lb bot.....lb.	31.00	33.00	33.00	21.00	24.00	21.00
Anise Tech, 400 lb drums...lb.	.90	.95	1.15	.90	1.15	.55
USP, 60 lb cans.....lb.	.87	.88	1.16	.87	1.16	.58
Apricot Kernel, 50 lb cans...lb.	.34	.35	.39	.34	.46	.37
Bay, 25 lb tins N. F. V., 50.55% Phenol.....lb.	2.35	2.55	2.60	2.25	3.00	2.30
Terpeneless.....lb.	5.80	6.00	6.00	5.80	6.00	5.80
BERGAMOT, 25 lb coppers.lb.	2.60	2.80	3.70	2.60	5.35	3.25
Terpeneless.....lb.	14.00	18.00	18.00	14.00	18.00	14.00
Artificial, 25 lb cans.....lb.	2.00	2.75	3.25	2.00	3.25	2.50
Birch, Sweet, Northern, 25 lb tins.....lb.	2.25	2.75	4.00	2.25	4.00	3.75
Southern, 25 lb tins.....lb.	...	1.95	1.95	1.95	1.95	1.95
Birch Tar, rect., 5 lb bot.....lb.	.50	.55	.55	.50	.55	.50
Crude, 50 lb tins.....lb.	.12	.13	.13	.12	.13	.12
Bois de Rose, tins..... Brazillian.....lb.	1.05	1.20	1.60	1.05	1.70	1.55
Cayenne, tins.....lb.	1.65	1.75	2.00	1.65	2.35	1.90
Cade, 25 lb cans.....lb.	.25	.27	.27	.25	.27	.25
Cajuput, native, 50 lb tins..lb.	.75	.80	.80	.75	.88	.70
Calamus, 5 lb bot.....lb.	3.40	3.50	3.50	3.40	3.50	3.40
Camphor Sassa, 1000 lb drs..lb.	.22	.23	.30	.22	.36	.14½
White, 400 lb drs.....lb.	.23	.25	.40	.23	.40	.10½
Cans, 50 lbs.....lb.	.26	.27	.35	.26	.35	.14
CANANGA, Native 25 lb tins .....lb.	2.35	2.50	3.15	2.35	3.25	2.90
Rectified, 25 lb tins.....lb.	3.10	3.20	3.40	3.10	3.50	3.30
Caraway, USP.....lb.	1.65	1.80	1.95	1.65	2.00	1.65
Cardamon, NF, 1 lb bot.....lb.	24.00	37.00	39.00	24.00	29.00	25.00
Cascarilla, USP, 1 lb bot.....lb.	65.00	80.00	90.00	65.00	90.00	50.00
Cassia, ...	...	...	...	...	...	...
Redist, USP, 50 lb cans...lb.	1.25	1.30	1.45	1.25	2.10	1.40
Cedar Leaf, 50 lb tins.....lb.	1.05	1.10	1.10	1.05	1.10	.95
Cedar Wood, light, 1000 lb drs .....lb.	.43	.45	.45	.25	.28	.25
Celery, 1 lb bot.....lb.	...	7.50	7.75	7.50	7.75	7.75
Chaulmoogra, USP 80 lb cases lb.	...	1.50	1.50	1.50	1.50	1.20
Cinnamon Ceylon, 1 lb bot...lb.	9.50	13.00	13.00	9.50	13.00	9.50
Leaf, 5 lb bot.....lb.	1.85	1.95	1.95	1.85	1.95	1.60
CITRONELLA Ceylon, 1000 lb drs.....lb.	.57	.59	.63	.57	.61	.44
50 lb tins.....lb.	.59	.61	.64	.59	.62	.46
Java, 400 lb drs.....lb.	.64	.69	.82	.62	.91	.49
50 lb tins.....lb.	.66	.71	.84	.64	.93	.52
Cloves, USP, 50 lb cans.....lb.	1.75	1.80	2.20	1.80	2.90	2.20
6 lb bot.....lb.	2.20	2.25	1.65	.84	2.70	1.75
Copaiba.....lb.	...	.65	.65	.65	.80	.65
Coriander, USP, 10 lb bots..lb.	5.75	6.35	5.90	5.75	11.25	5.90
Croton USP, 25 lb tins.....lb.	4.00	4.25	4.25	3.00	3.15	.90
Cubebs, USP, 5 lb bot.....lb.	2.90	3.00	3.00	2.90	3.00	2.90
Cumin, 1 lb bot.....lb.	7.00	7.50	7.50	7.00	3.75	3.75
Dill, 25 lb cans.....lb.	3.75	5.75	5.75	3.75	3.85	3.75
Erigeron, 20 lb tins.....lb.	1.80	2.00	2.00	1.80	1.90	1.80
EUCALYPTUS Austl, USP, 56 lb cans, cases.....lb.	.42	.43	.52	.42	.60	.51
500 lb drs.....lb.	.41	.42	.51	.41	.59	.50
Fennel, USP, 25 lb tins.....lb.	.95	1.10	1.10	.80	.85	.80
Geranium African, 25 lb tins..lb.	4.15	4.25	5.40	4.15	5.40	3.85
Bourbon, 28 lb tins.....lb.	4.25	4.50	4.90	4.00	5.85	4.25
Turkish, 28 lb tins.....lb.	3.10	3.25	3.35	3.10	3.35	3.00
Ginger, 1 lb bot.....lb.	5.75	6.00	6.85	5.75	6.85	6.00
Gingergrass, 28 lb tins.....lb.	2.50	2.70	2.70	2.50	2.70	2.50
Hemlock, 25 lb tins.....lb.	1.05	1.10	1.10	1.05	1.10	1.05
Iuniper Berries, USP, 25 lb tins .....lb.	1.95	2.00	2.15	1.90	2.15	2.05
Wood, 50 lb tins.....lb.	.50	.60	.60	.50	.60	.50
LAVENDER, USP, 28 lb tins .....lb	2.40	2.55	3.40	2.40	3.40	3.25
Spike Spanish, 50 lb cans..lb.	1.00	1.10	1.10	.90	.95	.90
Lemon Ital, 25 lb cans.....lb.	1.25	1.50	3.40	1.25	5.75	2.75
California 35 lb cbys....lb.	1.10	1.30	2.25	1.10	4.65	2.05
Lemongrass, native, 50 lb cans .....lb.	.72	.74	.74	.72	.83	.81
Limes, expressed, 25 lb tins..lb.	17.75	20.75	22.50	17.75	28.00	19.50
Distilled, 25 lb tins.....lb.	7.25	7.50	8.75	7.25	9.75	7.75
Linaloe Mex., 70 lb cases....lb.	...	2.10	2.25	2.10	2.25	2.20
Mace, distilled, 50 lb tins....lb	1.70	1.75	1.80	1.70	1.80	1.75
Mandarin, 25 lb cases.....lb.	6.50	7.00	9.25	6.50	11.50	8.75
Mirbane, ref Aromatic Chemicals.....						
MUSTARD, USP, 1 lb bots.lb.	9.50	10.00	10.00	9.50	10.00	9.50
Artif, USP, 5 lb bot.....lb.	1.60	1.70	1.70	1.60	1.70	1.60
Neroli Bigarade, ½ & ¼ & 1 lb bot .....lb.	125.00	250.00	325.00	125.00	325.00	75.00
Petale, 1 lb bot.....lb.	160.00	170.00	170.00	150.00	170.00	160.00
Artificial, 1 lb bot.....lb.	5.00	15.00	15.00	5.00	15.00	5.00
Nutmeg, USP, 50 lb tins....lb	1.60	1.65	1.80	1.60	1.80	1.75
ORANGE BITTER, 25 lb tins .....lb	2.90	3.15	3.75	2.90	6.75	3.50
Sweet W Ind, 25 lb tins..lb	2.70	2.95	3.35	2.70	6.50	3.10
Italian, 25 lb cop.....lb.	2.75	3.05	4.00	2.75	7.35	3.35

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Monthly Review

Lime and Papain Output

The annual Colonial report for 1928-29 on the Leeward Islands (H. M. Stationery Office) contains information on the production of limes and lime products, papain and bay oil in Antigua, Dominica and Montserrat, says "Chemist & Druggist."

The report mentions that Dominica was visited by a hurricane on September 12, 1928, and that a considerable portion of the lime crop was destroyed; but, in spite of the hurricane, there is every indication that the financial condition of the Presidency tends to improve, chiefly due to the high prices for lime oils and other lime products. Dealing with the lime industry, the report states that the export figures for limes and lime products during the year 1928 show a falling off of 5,000 barrels when represented as fruit. This decrease is attributable to outbreaks of root disease and the hurricane.

The Department of Agriculture has laid down large nurseries and is propagating budded and grafted lime trees to replace the seedling lime which is rapidly being destroyed by the ravages of root disease. It has been demonstrated that budded limes possess qualities superior to the seedling, one of which is immunity to most root troubles. High prices for lime products held throughout the year, and the closing prices for December were: Ripe limes, 15s. per barrel; green limes, 20s. per barrel; lime oils, 46s. per lb. for essential and 25s. per lb. for distilled.

Fifty gallons on concentrated juice represents 75 barrels of lime fruits; 7½ gallons of raw juice represents 1 barrel of lime fruits; 1 ton of citrate of lime is equivalent to 266 barrels of lime fruits; 1 ton of citric acid is equivalent to 400 barrels of lime fruits; 1 gallon of lime juice cordial represents 5½ barrels of lime fruits.

The exports of products of the lime industry during 1928 were as follows:—

Product	*Quantity*	*Value*
		£
Concentrated lime juice	90,731 gals.	20,726
Raw lime juice	306,090 gals.	20,947
Lime juice cordial	337 gals.	51
Fresh limes	26,830 brls.	24,743
Pickled limes	225 brls.	472
Essential oil (distilled)	32,174 lb.	37,192
Otto of limes (handpressed or ecuelled)	7,677 lb.	15,383
		£119,514

The export trade was remarkable for a continuation of the high prices realized for lime oils and green limes, which are mainly exported to the United States of America. Raw and concentrated juice is exported mainly to Great Britain.

Geranium Crop Inferior

Hailstones affected the geranium plantations in Algeria at the beginning of the year 1929 so that nearly 500 acres of plantation in the Department of Algiers were completely destroyed and some 750 acres were damaged. The crops were inferior. Prices continued high throughout the year, rising from $10.60 per kilo during the second quarter to $11.60 in the third and falling to $10.40 at the end of the year. Figures for the 1929 production are still unavailable.

Exports are increasing annually, and the declared exports to the United States from the ports of Algiers and Oran during the quarter ended March 31, 1930, of geranium oil amounted to 12,025 pounds, valued at $39,100 as against 5,550 pounds, valued at $20,845, for the corresponding period during 1929.

	Current Market	1930 High	1930 Low	1929 High	1929 Low
Orange American, Cold pressed					
25 lb tins	lb. 2.90	3.05	3.75	2.90	7.40	3.50
Distilled, 25 lb tins	lb. 1.55	1.60	2.15	1.55	5.25	2.05
Spanish, 25 lb tins	lb. 3.00	3.15	4.00	3.00	7.15	3.85
Oil Orris, concrete	oz. 6.00	6.25	6.25	6.00	6.25	2.50
Origanum, 50 lb cans tech.	lb. .28	.30	.30	.28	.30	.28
Parsley, 1 lb bot	lb. 9.00	9.25	9.25	9.00	9.25	8.00
Patchouli, 5 lb bot	lb. 6.40	6.65	8.50	6.40	8.75	6.75
Pennyroyal, dom, 25 lb tins	lb. 1.55	2.10	2.10	1.55	2.10	1.55
Imported, 25 lb tins	lb. ...	1.10	1.20	1.10	1.20	1.20
Pepper Black lb.	10.25		10.25	10.25		
Peppermint, nat. 60 lb cases	lb. 2.70	3.00	3.45	2.70	4.05	2.85
Redis, USP, 60 lb cs.	lb. 3.00	3.25	3.65	3.00	4.30	3.10
Petit Grain S.A., 25 lb tins	lb. 1.60	1.70	2.05	1.60	2.05	1.90
French, 1 lb bot	lb. 6.25	6.50	6.50	6.25	6.50	6.35
Italian, 25 lb tins	lb. 2.20	2.30	2.30	2.20	2.30	2.20
Pimento, 25 lb tins	lb. 2.35	2.60	2.75	2.50	2.75	2.25
Pineedle Siberian, cans	lb. .70	.75	.75	.70	.75	.60
Pinus, Sylvestris, 25 lb tins	lb. 1.90	2.00	2.00	1.90	2.00	1.90
Pumilio, USP, 25 lb tins	lb. 2.45	2.55	2.95	2.45	2.95	2.85
Rose Fr, 8, 16, & 32 oz pkgs	lb. 14.00	17.00	17.00	14.00	17.00	12.00
Bulg, 8, 10 & 32 oz pkgs	lb. 14.00	16.00	16.00	14.00	14.50	11.50
Rosemary, USP, 27½ lb tins	lb. ...	.51	.56	.51	.56	.47½
1000 lb drums	lb. ...	.50	.50	.50	.50	.42½
Tech, 25½ lb tins	lb. ...	.40	.40	.40	.40	.40
Rue, 1 lb bot	lb. 3.00	3.10	3.25	3.00	3.25	3.15
SANDALWOOD, E Ind ,USP, 100 lb case	lb. 8.25	8.50	9.85	8.25	9.85	7.45
W Indian (Amayris), 25 lb tins	lb. 2.85	2.95	2.95	2.85	2.95	2.25
Australian, Tins	5.65	5.65	5.65			
Sassafras, USP, 50 lb cans	lb. 1.30	1.32	1.32	1.30	1.32	.78
Artificial, 1000 lb drs, 60 lb cans	lb. .30	.32	.36	.30	.40	.26
Safrol, cans	lb. .36	.38	.43	.36	.48	.28
Savin, 50 lb tins	lb. 2.30	2.45	2.65	2.30	2.75	1.65
SPEARMINT, USP, 50 lb tins	lb 4.10	4.15	4.70	4.10	4.70	4.05
Spruce, 50 lb tins	lb 1.05	1.10	1.10	1.05	1.10	1.05
Tansy, American, 25 lb tins	lb. 3.75	4.00	4.00	3.75	4.00	3.75
Tar, 50 gal bbls	.25	.30	.30	.25	.30	.25
USP, 50 gal bbls	lb. .75	1.50	1.50	.75	1.50	.75
Thyme, red, NF, 25 lb tins	lb. .78	.80	.80	.78	.90	.78
White, NF, 25 lb tins	lb. .83	.85	.85	.83	.90	.83
Tech, 110 lb drums	lb. .60	.70	.70	.60	.70	.60
Turpentine, USP, rect cbys	lb. .27	.30	.30	.27	.30	.27
Vetivert Bourbon, 10 bot	lb. 6.25	6.50	6.50	6.25	6.50	6.25
Indian, 1 lb bot	lb. 25.00	38.00	38.00	25.00	38.00	25.00
Java, 1 lb bot	lb. 15.00	16.00	16.00	15.00	16.00	15.00
Wine, heavy, 1 lb bot	lb. 1.65	1.75	1.75	1.65	1.75	1.65
WINTERGREEN Gaultheria, true, 25 lb tin	lb. 8.00	10.00	10.00	8.00	10.00	8.00
Southern, 25 lb tins	lb. 3.75	4.00	4.00	3.75	4.00	3.75
Synthetic see Methyl salicylate						
Wormwood, dom, 25 lb tins	lb. 11.75	12.00	17.25	11.75	35.00	13.25
Wormseed, Balt, 25 lb tins	lb. 2.90	3.15	3.50	2.90	3.65	1.80
Ylang Ylang Bourbon, 10 lb tins						
No. 1	lb. 9.00	9.25	9.25	9.00	9.75	9.25
10 lb tins No. 2	lb. 8.20	8.25	8.50	8.20	8.50	8.25
Manila, 1 lb bot	lb. 30.00	40.00	40.00	30.00	40.00	30.00

Oleoresins

Aspidum, USP, bot and tins	lb. ...	1.25	1.25	1.25	1.45	1.25
Capsicum, USP, bot and tins	lb 3.50	4.25	4.25	3.50	4.25	3.50
Cubeb, USP, bot and tins	lb. 3.00	3.25	2.25	3.00	3.25	3.00
Ginger bot and tins	lb. 2.85	3.35	3.35	2.85	3.35	2.85
Malefern see Aspidum						
Orris, bot & tins	lb. 15.00	18.00	18.00	15.00	18.00	15.00
Pepper, black, USP, bot & tin	lb. ...	9.50	9.50	9.50	9.50	9.50
Vanilla, bot & tins	lb. 8.00	8.75	8.75	8.00	8.75	8.00

Perfumer's Sundries

Almond Meal, 25 lb cans	lb. .20	.21	.21	.20	.21	.20
Amber liquid, 400 lb drs	lb. 2.20	2.30	2.30	2.20	2.30	2.20
Ambergris, Black, boxes	oz. 14.00	15.00	15.00	14.00	15.00	14.00
Gray boxes	oz. 32.00	36.00	36.00	32.00	36.00	32.00
BALSAM COPAIBA Para, 80 lb cases	lb. ...	.33½	.33½	.33½	.34	.30
South American, USP, 80 lb cases	lb. ...	.37	.37	.37	.37	.37
Peru, 120 lb cases	lb. 1.65	2.00	2.00	1.65	2.05	1.75
Tolu, 90 lb cases	lb. 1.25	1.30	1.30	1.25	1.30	1.15
Benzoin Gum, Siam, boxes	lb. 1.20	1.30	1.30	1.20	1.30	1.20
Castoreum, 1 lb bot	lb. 20.00	22.00	22.00	9.50	10.00	9.50
Chalk, Precip, 1 gt 175 bbls	lb. .04½	.05	.05	.04½	.05	.04½
Cherry Laurel Water, 24 ltr cby	lb. 4.10	4.60	4.60	4.10	4.60	4.10
Civet, Abyssin, horns	oz. 2.10	3.00	3.00	2.10	3.00	2.10
Labdanum, 5 lb bot	lb. 5.50	6.00	6.00	5.50	6.00	5.50
Musk Pods Cabardine, tins	lb. ...	...	...	...	...	...
Musk Tonquin, tins, Pods	oz. 24.00	26.00	26.00	24.00	26.00	24.00
Grains Cabardine, tins	oz. ...	...	...	...	...	...
Tonquin, tins, Grained	oz. 28.00	34.00	34.00	28.00	34.00	28.00
Synthetic See Aromatic Chemical						
Rice Starch, 140 lb bags	lb. .09	.10	.10	.09	.10	.09
Rose Water, 24 ltr cbys	cby. 5.00	5.50	5.50	5.00	5.50	5.00
Sandalwood, pwd bags	lb. .22½	.40	.40	.22½	.40	.22½
Saponin, 5 lb tins	lb. 1.15	1.30	1.30	1.15	1.30	1.15
Talc, Italian, 220 lb bags	ton. 60.00	80.00	80.00	60.00	80.00	60.00
French, 220 lb bags	ton. 40.00	45.00	45.00	40.00	45.00	40.00

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{ Monthly Review }

Senna Market Over-supplied

During the past few months the market for Tinnevelly senna has been very depressed owing to large parcels of liquidation stocks offering for compulsory sale, states "Chemist and Druggist." It would appear that the bulk of these offerings (particularly the cheap grades) has now been absorbed and the market has consequently settled down to more stable conditions. Overland type samples of the new Tinnevelly crop have recently arrived in London of the new Tinnevelly crop have recently arrived in London, and examination shows that the colour of the leaves is not particularly good and the grading (uniformity of leaf and presence of stalks, etc.) rather lower than that of last season.

No. 1 leaves of the new crop for shipment from India are offered at 5d. per lb.; No. 2 at 3¾d. per lb. c. i. f. London. New crop hand-picked Tinnevelly pods are offered at 5½d. per lb. c. i. f., and overland type samples show a considerable falling off in quality, the colour being dark, in marked contrast to the fine greenish pods of last season. This has resulted in a rapid clearance by London merchants of the balance of old crop stocks in brokers' hands, which were offering at cheap prices, and up to 7½d. per lb. is now being asked for prime quality on the spot, with darkish pods available at 5d. per lb. ex-wharf London terms.

Recently overland type samples of so-called f.a.q. grade, quoted at 3d. per lb. c.i.f., have the appearance of being only rejections from picked pods, and would not be passed in London as f. a. q.; this lower quality is accounted for by the demand for hand-picked pods. Formerly (before hand-picked were introduced) the f. a. q. contained all the pods as collected, without the best pods being picked out. Up to a few years ago a very large c. i. f. business was done by London brokers in new crop Tinnevelly senna, and there was usually a scramble to be the first in the market with the overland type samples. This c. i. f. business nowadays has practically fallen away to nothing, as buyers prefer to buy on "London dock samples drawn from the actual bales on arrival."

Very few buyers are prepared to take the risk of inferior quality being shipped against c. i. f. contracts, as the arbitration allowances do not compensate them sufficiently for the non-delivery of the quality (particularly color) they desire. For this reason the bulk of the London business is at present conducted on a consignment basis and buyers can select or match the actual quality to meet their requirements. It is possible at the present time to buy Tinnevelly senna on spot, ex-wharf London terms, at cheaper prices than for forward shipment at c. i. f. rates, and this position is likely to continue for some months—providing the Indian trouble does not spread south to the senna area. Spot purchases at to-day's low levels would, therefore, appear to be reasonably safe, and any improvement in values would be quickly reflected in cabled rates for shipment.

Digitalis is lower at 17c and 18c per lb. with stocks reported as ample to meet any demand at these figures. Demand, however, has been unimportant with dealers noticeably on the alert.

Drugs and Spices

	Current Market	1930 High	1930 Low	1929 High	1929 Low
Aconite Root, USP, bags....lb.	.15	.16	.19	.15	.21	.18
Agar Agar, No. 1, bales....lb.	1.26	1.27				
Agar Agar No. 2, bales.....lb.	1.18	1.20	1.45	1.40	1.45	1.40
Almonds Meal.....lb.	.19	.20	.20	.19	.30	.15
Aletris Root, bags.....lb.	.33	.34	.37	.33	.38	.35
Alkanet Root, bags.....lb	.11	.12	.14	.11	.15	.11
ALOES, Cape, 400 lb cases. lb.	.13	.14	.21	.13	.18	.14
Curacao, 100 lb cases.....lb.	.25	.27	.27	.25	.27	.19
Socotrine, Whole, 300 lb cs lb.	.35	.40	.50	.35	.50	.35
Althea Root, bags.....lb.	.20	.22	.22	.20	.22	.20
Cut cases.....lb.	.25	.32	.37	.25	.40	.30
Angelica Root, bags.....lb.	.18	.19	.22	.18	.28	.21
Angostura Bark, bags.....lb.	.20	.23	.25	.20	.26	.19
Anise Star case.....lb	.11½	.11¾	.11¾	.09½	.19	.11
Spanish, bags.....lb	.12	.12½	.14½	.12	.19	.13½
ARABIC GUM, White, No. 1, 220 lb bags.....lb.	.44	.45	.45	.35	.38	.22
Seconds, 220 lb bags.....lb.	.42	.43	.43	.33	.36	.16
Sorts, Amber, 220 lb bags..lb.	.17½	.18	.27	.17½	.32	.11
Powd, USP, 300 lb bbls....lb.	.23	.26	.32	.23	.35	.17½
Areca Nuts, 100 lb bbls.....lb.	.08	.10	.20	.08	.14	.10
Powd, 100 lb bbls.....lb.	.14	.16	.27	.14	.27	.14
Arnica Flowers, bales.....lb.	.21	.23	.35	.21	1.00	.34
Root, bags.....lb.	.42	.43	.46	.42	.46	.35
Arrowroot, St. Vincent, powd bbls.....lb.	.08	.09	.10½	.08	.10½	.10
Asafoetida, 250 lb cases.....lb.	.21	.22	.27	.21	.29	.23
Powd, 50 lb boxes.....lb.	.36	.37	.50	.36	.54	.46
Balm Gilead Buds, bags.....lb.	.35	.40	.40	.35	.40	.35
Balmony Herbs, bales.....lb.	.23	.25	.25	.23	.25	.18
Barberry Bark, of root, bags lb.	.18	.20	.20	.18	.20	.18
Bayberry Bark, bales.....lb.	.10	.11	.12	.10	.13	.10
Wax bbls.....lb.	.29	.32	.32	.29	.32	.29
BELLADONNA LEAVES, bale .....lb.	.15	.17	.20	.15	.20	.17
Root, bags.....lb.	.15	.16	.19	.15	.21	.18
Bees Wax, White, cases.....lb.	.48	.52	.60	.48	.60	.55
Yellow refined cases.....lb.	.34	.40	.42	.34	.42	.41
Berberis Aquafolium Root, bags .....lb.	.09	.10	.10	.09	.12	.09
Beth Root, bags.....lb.	.16	.17	.17	.16	.18	.16
Black Indian Hemp Root, 100 lb bags.....lb.	.17	.18	.19	.17	.19	.18
Blood Root, bags.....lb.	.15	.15½	.18½	.15	.18½	.17½
Blueflag Root, bags.....lb.	.15	.18	.21	.15	.21	.18
Boldo Leaves, bales.....lb.	.15	.17	.17	.15	.17	.15
Boneset Herb, bales.....lb.	.10	.11	.12	.10	.12	.10
Borage Flowers, bales.....lb.	.15	.16	.16	.15	.15	.14½
Broomtop Herb Cut, bales..lb.	.08	.09	.11	.08	.11	.10
Bryonia Root, bags.....lb.	.10	.11	.12	.10	.12	.11
BUCHU LEAVES Short, 250 lb. bales.....lb.	.28	.30	.40	.28	.47	.36
Long bales.....lb.	.75	.80	.80	.75	.80	.75
Buckbean Leaves, bales.....lb.	.08	.09	.09	.08	.10	.08
Buckthorn Bark, bags.....lb.	.05½	.06	.07½	.05	.05½	.05
Berries, bags.....lb.	.33	.38	.45	.33	.50	.40
Burdock Root, bags.....lb.	.11	.12	.18	.11	.18	.13
Seed bags.....lb.	.40	...	.40	.40	.65	.40
Burgundy Pitch, 110 stand gross for net.....lb.	.08	.09	.09	.08	.09	.08
Imported.....lb.	.11	.12	.12	.11	.13	.11
Calabar Beans, bags.....lb.	.23	.24	.26	.23	.26	.22
Calamus Root, blchd cases..lb.	.40	.45	.50	.40	.52	.45
Unbleached, bags.....lb.	.06½	.08	.08	.06½	.08	.06½
Calendula Petals, imp bales..lb.	.85	.90	1.05	.85	1.70	.95
Calisaya Bark, bales.....lb.	.19	.20	.20	.19	.22	.19
Powdered, bbls.....lb.	.24	.25	.25	.24	.27	.24
Canary Seed, South America, bags.....lb.	.07½	.08	.08	.05½	.07½	.05
Dutch, bags.....lb.	.06½	.06½	.06½	.05½	.06½	.05½
Candelilla Wax, bags.....lb.	.27	.28	.28	.27	.28	.27
Cannella Alba Bark, bales...lb.	.30	.31	.31	.30	.31	.28
Cannabis, U.S.P.....lb	.25	.32	.32	.23	.33	.22
Cantharides, Chinese, cases..lb.	.35	.40	.47	.35	.55	.42
Powdered, boxes.....lb.	.58	.60	.65	.58	.80	.63
Russian, cases.....lb.	.50	.55	.55	.50	.55	.50
Powdered, boxes.....lb.	.60	.62	.64	.60	.75	.65
Caraway Seed, African, bags .....lb.	.05	.06	.06	.05	.06	.05
Dutch, 11 lb bags.....lb.	.10	.10½	.10½	.10	.12	.09½
Cardamon bleached, cases...lb.	1.25	1.35	1.55	1.25	1.75	1.45
Decorticated, cases.....lb.	.96	1.00	1.40	.96	1.60	1.35
Cascara Amarga, 150 lb bbls.lb.	Nom	...	...	...	...	...
So called bales.....lb.	.60	.85	.85	.60	.85	.60
CASCARA SAGRADA, 1927 bark.....lb.	.17	.18	.18	.16	.18	.15
1928 bark .....lb.	.16½	.18	.18	.15	.16	.14
1929 bark .....lb.	.15	.16	.16	.14	.15	.13
Cascarilla Bark, quills, bales.lb.	.85	.95	1.00	.85	1.00	.90
Siftings, bbls.....lb.	.65	...	.65	.65	.65	.65
Cassia Batavia No. 1 bbls....lb.	.09	.09½	.14	.09	.15	.13½
Shortstick, bales.....lb.	.08	.08½	.11	.08	.12½	.10½
Batavia No. 3, bales.....lb.	.07	.07½	.09½	.07	.11	.09½
China Select Rolls, cases..lb.	.03¾	.04	.07½	.03¾	.09	.08½
Broken, bales.....lb.	.05½	.05¾	.10	.05½	.10	.09½
Saigon, thin.....lb.	.22	.23	.31	.22	.39	.28
Buds, cases.....lb.	.14	.15	.26	.14	.28½	.16½
Fistula, baskets.....lb.	.09	.10	.12	.09	.13	.10
Catnip, Herb, bales.....lb.	.19	.20	.20	.19	.23	.18
Celery Seed, bales.....lb.	.16½	.16½	.17½	.16½	.19	.16½
Ceresin Wax, White, bags...lb.	.15	.20	.20	.15	.20	.15
Yellow 200 lb. bags.....lb.	.11	.14	.14	.11	.14	.11
Imp. 100 lb. bags.....lb.	.25	.38	.38	.25	.38	.25

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Steel Drums,	55 gallons each
6 gallon tins,	2 to the case
5 " "	" " " "
1 " "	12 " " "
½ " "	24 " " "
¼ " "	48 " " "
½ pint "	192 " " "

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{ Monthly Review }

Psyllium Seed Skyrockets

Flea seed still continues to skyrocket. What stocks remain in this market are being offered at 75c and 80c per lb. Reports from France indicate a large crop as production has been stimulated by prevailing high prices. Conditions in the primary market are weaker with cabled prices being repeatedly lower as the shipping period approaches. It would not seem advisable to place contracts at this time as there is every likelihood that lower figures will prevail.

Psyllium Seed Exports Off

A cable from Assistant Commercial Attache Greenup, Madrid, state that dealers in Madrid, Cadiz, and Seville estimate the total 1930 Spanish psyllium crop, which has been seriously reduced on account of recent heavy rains, at between eight and twenty tons. Dealers in Barcelona and Malaga offer no estimates. The wholesale price at warehouse quoted in Barcelona, Malaga, and Cadiz are five pesetas per kilo subject to availability. Madrid and Seville not quoting.

Exports of psyllium seed from Spain to the United States through the port of Seville, which along with Malaga accounts for the bulk of the trade, amounted to only 19,212 pounds for the first quarter of 1930 as against 32,536 pounds for the corresponding period of 1929, according to Vice Consul Gerald Keith. The value was $5,300 as against $6,600 or a decrease of only 20 per cent in value as against 41 per cent in quantity.

Consul J. S. Calvert, Marseille, reports that the declared exports to the United States of psyllium (flea) seed from France through the port of Marseille, which accounts for the bulk of the trade, during the March quarter of 1930 amounted to 441,000 pounds, valued at $110,110, against 455,500 pounds, valued at $60,100, for a similar period in 1929. Thus it is noted that while there was a decrease of approximately only 14,000 pounds, the value nearly doubled.

Gum Tragacanth Market

A fair amount of activity developed on the local gum tragacanth market during April (sales aggregating 237 sacks) and the volume of transactions equalled that of March. This was due to a decline in prices for the inferior and medium grades, which brought about important sales in the different trading centers of the interior. The decrease of Turkish gum tragacanth prices had its usual effect in Persia, where the native product immediately went down 20 per cent. in order to compete.

The Soviet agents purchased in April a new lot of 5 tons, this being part of the total quantity they contracted for.

Stocks available on the local market on April 24 consisted of about 30,000 kilos or 740 sacks, 130 of which were white, 205 biondo, 110 yellow, 224 djalo, scarto 42, and tragathon 30. Stocks should be easily disposed of if properly sorted. (Commercial Attache J. E. Gillespie, Istanbul.)

	Current Market	1930 High	1930 Low	1929 High	1929 Low
CHAMOMILE FLOWERS					
Roman, bales lb.	.70	.75	.80	.70	.80	.40
Hungarian, cases lb.	.16	.17	.22	.16	.26	.20
Charcoal Willow, powd, bbls lb.	.06	.06½	.06½	.06	.06½	.06
Wood, powd, bbls lb.	.04	.05	.05	.04	.05	.04
Chestnut Bark lb.	.07	.08	.08	.07	.08	.07
Leaves bales lb.	.05	.05½	.05½	.05	.05½	.05
Chicle Gum, lb bbls lb.	.58	.75	.75	.58	.75	.58
Chiretta, bales lb.	.16	.19	.28	.16	.30	.26
Cinnamon, Ceylon, No. 1, bales lb.	.34	.35	.35	.34	.62	.34
No. 2 bales lb.	.20	.21	.34	.20	.51	.32
No. 3 bales lb.	.55½	.56	.56	.55½	.56	.55½
Clover Tops, Red, bags lb.	.10	.11	.11	.10	.14	.10
Cloves Zanzibar, 135 lb bbl lb.	.25	.25½	.29	.22	.38	.23½
Cochineal, Black lb.	.69	...	.69	.69	.69	.69
Silver lb.	.85	...	.85	.85	.85	.85
Cohosh Root, Black, bags lb.	.07½	.08½	.09	.07½	.09	.07½
Blue, bags lb.	.08½	.09½	.11	.08½	.12	.10
Colchicum Root, bags lb.	.09	.10	.11	.09	.11	.07
Seed, bags lb.	.95	1.00	1.00	.95	1.00	.65
COLUMBO ROOT, bags lb.	.08½	.09½	.12	.08½	.20	.11
Colocynth Pulp, bales lb.	.21	.22	.27	.21	.45	.29
Coltsfoot Leaves, bags lb.	.08	.09	.09	.08	.09	.08
Comfrey Root, bags lb.	.10	.11	.11	.11	.14	.11
Condurango Bark, bags lb.	.13	.14	.16	.13	.17	.15
Coriander Seed, Morocco, bags lb.	.02¾	.02¾	.03½	.02¾	.06	.03
Bleached, bags lb.	.06½	.07	.08	.06½	.11½	.07½
Corn Silk, bales lb.	.06	.07	.07	.05½	.06½	.05½
Cotton Root Bark, bales lb.	.10	.11	.14	.10	.15	.12
Cowhage, 1 oz tins lb.	1.00	...	1.00	1.00	1.00	1.00
Cramp Bark so called bales lb.	.06½	.07	.07	.06½	.08	.06
True, bags lb.	.33	.38	.40	.38	.48	.35
Craneshill Root, bags lb.	.10	...	.10	.10	.10	.10
CUBEB BERRIES, XX bags lb.	.40	.42	.53	.40	.53	.48
Powdered, boxes lb.	.45	.46	.55	.45	.55	.50
Culvers Root, bags lb.	.18	.19	.19	.18	.20	.18
Cumin Seed, Malta, bags lb.	.13¼	.13¾	.13¾	.13¼	.13¾	.12
Morocco, bags lb.	.13	.13½	.16	.13	.16	.12
Cuttlefish, Bone Trieste, Straps lb.	.23	.25	.25	.23	.25	.14
French, boxes lb.	.22	.23	.23	.22	.23	.12½
Powdered, bbls lb.	.09	.10	.10	.09	.10	.09
Broken, bales lb.	.07	...	.07	.07	.07	.05
Damiana Leaves, bales lb.	.17	.18	.18	.17	.18	.16
Dandelion Root, Imp. bags lb.	.23	.25	.27	.22	.29	.19
Deer Tongue Leaves, bales lb.	.11	.13	.13	.11	.13	.11
Digitalis Leaves, bales lb.	.17	.18	.28	.17	.70	.26
Dogwood Bark, Jamaica bags lb.	.09	.10	.10	.09	.11	.09
American bales lb.	.06½	...	.06½	.06½	.06½	.06½
Doggrass Root, USP, cut bags lb.	.12	.13	.13	.12	.13	.10
Dragons Blood Mass, cases lb.	.65	.70	.70	.65	.70	.65
Reeds, boxes lb.	...	1.50	4.00	1.50	4.00	.90
Echinacea Root, bags lb.	.23	.25	.25	.23	.28	.23
Elcampane Root, bags lb.	.08	.09	.09	.08	.09	.08
Elder Flowers, bags lb.	.40	.45	.55	.40	.55	.22
Elemi Gum, 85 lb cases lb.	.26	.28	.28	.26	.28	.26
Elm Bark, bundles lb.	.30	.31	.40	.30	.40	.25
Grinding bags lb.	.13½	.14	.14	.13½	.14	.13½
Powdered, bbls lb.	.18	.19	.22	.18	.22	.19
Ephedra Vulgaris, bales lb.	.09	.10	.10	.09	.10	.09
ERGOT, 150-200 lb bags lb.	.55	.60	.65	.60	.95	.60
Eucalyptus Leaves, bales lb.	.07	.08	.09	.07	.11	.07
Euphorbia Pilulifera, Herb, bags lb.	.06½	.07½	.07½	.06½	.11	.06½
Euphorbium Gum, cases lb.	.14	.20	.20	.14	.20	.14
Fennel Seed, French, bags lb.	.10	.10½	.14½	.10	.18½	.14
German bags lb.	.12½	.14½	.19	.12½	.27	.17
Foenugreek Seed, 200 lb bags lb.	.04¾	.05½	.06½	.04¾	.06½	.05
Fish Berries, 100-125 lb bag lb.	.06	.07½	.07½	.06	.07½	.06
Flax Seed, Whole ..182 lb bbls lb.	15.50	16.25	17.00	15.50	17.00	14.00
Ground, 180 lb bbls lb.	.08½	.09	.09½	.08½	.09½	.08
Flea Seeds Black bags lb.	.75	.80	.80	.32	.35	.20
Fringe Tree Bark or Root bags lb.	.24	.26	.26	.19	.24	.19
Fumigating Pastiles, boxes lb.	.30	.35	.35	.30	.35	.30
Galangal Root, bags lb.	.08½	.09½	.15	.08½	.15	.14
Galbanum Gum, cans lb.	.95	1.05	1.05	.95	1.25	.95
Gamboge Gum, 100 lb cases lb.	1.05	1.10	1.15	1.05	1.25	1.10
Powdered, cases lb.	...	1.18	1.25	1.18	1.40	1.20
Gelsemium Root, bags lb.	.09	.10	.10	.09	.12	.09
GENTIAN ROOT, bags lb.	.08	.09	.10	.08	.11	.09
Ground bbls, boxes lb.	.13	.14	.14	.13	.14	.13
Powdered, bbls, boxes lb.	.13	.14	.14	.13	.14	.13
Ginger, African, bags lb.	.09¼	.09½	.17½	.09¼	.17½	.13
Jamaica Grinding bags lb.	.11	.11½	.21½	.11	.20	.18
Cochin ABC & Lemon, bags lb.	.15½	.16	.18½	.15½	.18½	.17
Ginseng Root, cultivated cs lb.	8.00	10.00	10.00	8.00	10.00	8.00
Wild Southern, cases lb.	...	16.00	16.00	16.00	16.00	16.00
Golden Seal Root, bags lb.	1.90	2.10	2.80	1.90	3.80	2.70
Powdered, boxes lb.	2.50	2.60	3.15	2.50	4.35	3.25
Herb, barrels lb.	1.25	1.30	1.30	1.25	1.30	1.25
Grains of Paradise, bags lb.	.20	.30	.40	.20	.85	.30
Grindelia Robusta, Herb, bale lb.	.09	.10	.11	.09	.12	.09
Guaiac Gum, 150 lb cases lb.	.30	.31	.35	.30	.38	.33
Strained 75 lb cases lb.	.70	.75	.75	.70	.75	.70
Guarana, tin cases lb.	2.75	3.00	3.00	2.75	3.00	2.50
Hellebore Root, Black, bbls lb.	.05½	.06	.06	.05½	.06	.05½
White, 250 lb bbls lb.	.07¾	.08½	.08½	.07¾	.08½	.07½
Powdered lb.	.11	.12	.12	.11	.12	.11
Helonias Root, bags lb.	.63	.65	.65	.63	.72	.62
Hemp Seed, bags lb.	.03¼	.03¾	.06	.03¼	.06	.05
Henbane Leaves, USP, bales lb.	.14	.15	.17	.14	.20	.15

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{ Monthly Review }

Buchu Weakens on Supplies

Buchu leaves have been reduced 10c per lb. during the past month, now being offered at 28c and 30c per lb. as to quantity. Stocks here have been large and although prices are at levels that should be attractive there has been no buying of importance. Shipments have been coming in freely from the primary market and have added to the accumulation already in the hands of dealers rather than passing through into consuming channels. Undoubtedly stocks are above what is necessary to meet any possible consuming demand.

Spanish Saffron Prices Off

Spanish saffron is lower in the primary market, the reduction at the source being reflected in this market. Spot prices have declined to $8.50 and $8.75 per lb. and it is reported in some circles that these figures could be shaded where a sizable order was in question. It might be interesting to recall that this commodity reached a peak price of $45 per lb. in 1923. Since that time decline has been rapid and almost uninterrupted and it is likely that with good crop prospects this tendency may continue.

Thyme is now being offered in this market at .08¾c per lb. for the Spanish variety, and .09¼c per lb. for the French grade. The market is competitive. The fact that there has been very little call for this product has added to the unsettlement.

Mexican Vanilla Climbing

Vanilla beans Mexican have continued their upward tendency, now being quoted spot at $4.25 and $5.50 per lb. for the whole, and $3.25 and $3.40 per lb. for cuts. Stocks of this grade are small and the crop prospects are not encouraging as the beans are running from six and one half inches to seven inches with no eight inch beans available from the new crop. The prices at which this crop was purchased will illiminate the possibility of any lower prices for a long time to come.

Bourbon beans are in plentiful supply and remain unchanged in price. Demand is good on all grades.

Ceylon Drug Exports

The following table gives the quantities and value of exports of the principal crude drugs, essential oils, etc. from Ceylon during the quarter ended March 31, 1930, as compared with the same period of 1929.

	1929 (3 months)		*1930 (3 months)*	
	Pounds	*Value*	*Pounds*	*Value*
Cardamoms	95,872	$75,805	88,816	$48,526
Cinnamon quills	777,168	284,544	805,952	170,031
Cinnamon chips	338,016	22,710	317,408	15,359
Citronella oil	332,495	121,144	296,280	132,278
Arecanuts	4,110,064	225,633	3,208,912	279,328
Cinnamon oil	8,965	11,681	2,127	3,071
Cinnamon leaf oil	7,415	9,422	14,707	18,688
Papain	18,190	32,894	15,298	27,614

(Consul Stillman W. Eells, Colombo.)

(Consul Stillman W. Eells, Colombo.)

	Current Market		1930 High	1930 Low	1929 High	1929 Low
HENNA LEAVES, bales	lb.	.12	.13	.12	.13	.12½
Powdered	lb.	.14	.15	.16	.14	.17	.15
Hops, bales	lb.	...	.20	.23	.20	.32	.23
Horehound, Herb, bales	lb.	.08	.09	.09	.08	.09	.08
Hydrangea Root, bales	lb.	...	.08	.09	.08	.09	.08
Insect Flowers	lb.	.27	.28	.28	.27	.37	.18
Powdered, Pure, 200 lb bb	lb.	.30	.31	.35	.30	.46	.25
IPECAC ROOT, Carteagna, bags	lb.	2.25	2.50	4.25	2.25	4.25	2.70
Powdered, 220 lb bbls	lb.	2.65	2.75	4.45	2.65	4.45	3.20
Rio Whole, bags	lb.	2.90	3.00	4.00	2.90	4.00	2.85
Powdered, 110 lb bbls	lb.	3.40	3.45	3.50	3.25	3.50	3.40
Isinglass, American, 130 lb cases	lb.	.95	1.00	1.00	.95	1.00	.95
Russian (Beluga), boxes	lb.	4.50	...	4.50	4.50	4.50	4.50
Jaborandi Leaves, bales	lb.	.11	.11½	.22½	.11	.22½	.11½
Jalap Root, Whole, 150 lb bag	lb.	.22	.24	.43	.22	.45	.24
USP, Powd, 250 lb bbls	lb.	.27	.30	.48	.27	.50	.29
Japan Wax 24 lb cases	lb.	.18½	.19	.19	.18½	.19	.18½
JUNIPER BERRIES, 125 lb bags	lb.	.05	.05½	.07	.05	.09	.05
Kamala, boxes	lb.	.90	.95	1.45	.90	1.40	.82
Karaya Gum, Powdered, bbls	lb.	.12	.20	.20	.12	.20	.12
Kava Kava Root, bags	lb.	.14	.15	.15	.14	.15	.14
Kino Gum, Black, cases	lb.	.50	.55	.55	.50	.55	.50
Kola Nuts, 150 lb bags	lb.	.10	.11	.15	.10	.15	.13
Lady Slipper Root, bags	lb.	.90	.95	1.15	.90	1.30	.85
Larkspur Seed, bags	lb.	.38	.43	.57	.38	.57	.40
Laurel Berries, bags	lb.	.08	.09	.09	.08	.09	.08
Leaves, Greek, bags	lb.	.04	.05	.06	.04	.06	.05
Italian, bales	lb.	.05	.06	.05	.03½	.04	.03½
Lavender Flowers, Ordinary	lb.	.28	.30	.35	.28	.35	.32
Selected	lb.	.38	.39	.46	.38	.46	.43
Lemon Peel, bags	lb.	.09	.10	.10½	.09	.13	.10
LICORICE ROOT, Whole bbls	lb.	.12	.18	.18	.12	.18	.12
Spanish Natural bales	lb.	.05½	.07	.07	.05½	.07	.05½
Powdered, bbls	lb.	.09	.10	.10	.09	.10	.09
Selected 2 & 5 lb bdls	lb.	.13	.15	.15	.13	.15	.12½
Cutting, 125 lb bags	ln.	.06½	.07	.07	.06½	.07	.06½
Turkish, 150 lb bales	lb.	.05	...	.05	.05	.05	.05
Linden Flowers with leaves, bales	lb.	.19	.20	.24	.19	.27	.23
Without leaves, bales	lb.	.24	.25	.29	.23	.32	.28
Liverwort Leaves, bales	lb.	.18	.19	.19	.18	.20	.18
Lobelia, Herb, bales	lb.	.10	.11	.13	.10	.16	.12
Seed, bags	lb.	.45	.50	.50	.45	.65	.45
Lovage Root, Imp., bags	lb.	.25	.27	.37	.25	.37	.25
Lupulin N. F., tins	lb.	1.50	1.55	1.65	1.50	1.75	1.65
Lycopodium, 88 lb. cases	lb.	.48	.50	.68	.48	.85	.66
MACE SIAUW, No. 1, cases	lb.	.62	.64	.82	.62	.86	.80
Banda No. 1, cases	lb.	.65½	.66	.86	.65½	.98	.85
Batavia No. 2, cases	lb.	.41	.42	.50	.41	.58	.47
Malva Flowers, Blue, bales	lb.	.40	.42	.57	.40	.57	.40
Black, bales	lb.	.40	.55	.55	.40	.60	.40
Leaves, bales	lb.	.14	.15	.15	.12	.15	.14
Manaca Root, bales	lb.	...	.25	.25	.24	.24	.22
Manna, Large Flake, cases	lb.	1.00	1.02	1.02	.90	.92	.75
Small Flake, cakes	lb.	.75	.83	.83	.57	.65	.52
Sorts, cases	lb.	.45	.50	.50	.45	.50	.45
Mandrake Root, bags	lb.	.10	.11	.13	.10	.14	.12
Marjoram, Herb	lb.	.18	.18½	.19	.17½	.19	.16
French, No. 1 bales	lb.	.24½	.24½	.26	.24	.25	.22
German, bales	lb.	.65	.70	.70	.65	.70	.65
Mastic Gum, 120 lb cans	lb.	.19	.30	.31	.19	.32	.30
Matico Leaves, bales	lb.	.20	.21	.25	.15	.25	.20
Mezereon Bark, bags	lb.	.03½	.03½	.04½	.03½	.04½	.03½
Millet Seed, Yellow, bags	lb.	.06½	.07	.07	.06½	.07	.06½
Montan Wax, Crude, bags	lb.	.25	.28	.28	.25	.28	.25
Bleached, bags	lb.	.10	.12	.12	.10	.11	.10
Moss, Iceland, bales	lb.	.14	.17	.17	.14	.18	.13
Irish, Bleached, bales	lb.	.95	.97	1.40	.95	2.00	1.35
Mullein Flowers, tins	lb.	.07½	.08	.08	.07½	.08	.07½
Leaves, bales	lb.	.07½	.08½	.10	.07½	.12	.09
Musk Root, Russian, bags	lb.	.25	.27	.35	.25	.65	.32
Myrrh Gum, 200 lb, cases	lb.	.22	...	.22	.22	.22	.22
Nutgalls, Chinese, bags	lb.	.21	...	.21	.21	.21	.21
Aleppy, bags	lb.	.23	...	.23	.23	.23	.23
Powdered, bags	lb.	.19	.19½	.27	.19	.31½	.26
Nutmegs, 110's cases	lb.	.23	.24	.37	.23	.42	.36
75's & 80's cases	lb.	.22	.23	.25	.22	.25	.24
Grinding, bags	lb	.05	.06	.06	.05	.06	.05
NUX-VOMICA Buttons, bag	lb.	.08½	.09	.09	.08½	.09	.08
Powdered, 200 lb bbls	lb.	.05	.05½	.05½	.05	.05½	.05
Oak Bark, bags	lb.	.12½	.14	.14	.12½	.15	.12½
Olibanum Gum, 280 lb cases	lb.	.29	.30	.30	.29	.29	.27
Siftings	lb.	.18	.20	.20	.18	.23	.18
Tears, No. 1 Extra	lb.	.14	.16	.16	.14	.18	.14
No. 2	lb.	12.00	13.00	13.00	12.00	13.00	12.00
No. 3	lb.	13.00	14.00	14.00	13.00	14.00	13.00
Opium Gum, USP, cases	lb.	13.00	14.00	14.00	13.00	14.00	13.00
Granular, cans	lb.	.30	.35	.40	.25	.30	.25
Powdered, USP, cans	lb.	.09½	.10½	.12	.09½	.12½	.10
Orange Flowers, cases	lb.	.09½	.10½	.15	.09½	.16	.11
Peel, Bitter, bags	lb.	.27	.28	.30	.27	.32	.17
Sweet bags	lb.	.30	.32	.34	.30	.35	.21
ORRIS ROOT, Flor. bid. bags	lb.	.19	.20	.24	.19	.25	.16
Powdered, 200 lb bbls	lb.	.23	.24	.27	.23	.32	.20
Verona, bags	lb.	1.00	1.05	1.20	1.00	1.20	.90
Powdered, 200 lb bbls	lb.	.23	.24	.27	.23	.32	.20
Fingers, boxes	lb.	1.00	1.05	1.20	1.00	1.20	.90
Ozokerite Wax, Brown, Hard	lb.	...	...	...	...	...	...
Bags	lb.	.24	.25	.25	.24	.25	.24
Green, Hard, bags	lb.	.30	.31	.31	.30	.31	.30
Yellow, Refined, bags	lb.	.37	...	.37	.37	.37	.37

{ Monthly Review }

Japan Wax Conditions

Japanese vegetable wax derived from the berries of rhus, is used to some extent as a substitute for beeswax, states a report of Consul E. R. Dickover, Kobe, Japan. The production of crude vegetable wax in Japan remains fairly constant. The United States, followed by Great Britain, Germany, and France, are the largest buyers, the United States taking 41 per cent. of Japan's total exports during 1927, or more than double the amount shipped to Great Britain, which stood second as a buyer of this commodity. Of the total exports of vegetable wax from Japan, 55 per cent. moved via the port of Kobe, while the bulk of the remainder was shipped from Moji. Exports of vegetable wax through the ports of Kobe and Osaka to all countries during 1928 and 1929 were 4,527,000 pounds, valued at $761,000, and 5,040,000 pounds, valued at $813,000, respectively. Exports of vegetable wax from Kobe to the United States amounted to 2,513,338 pounds, valued at $463,614 during 1929 as compared with 2,515,208 pounds, valued at $380,790 in 1928.

Prices were about 15 per cent. higher in 1929 than in 1928, owing to the decreased production of the raw material on account of unfavorable climatic conditions in the islands of Kyushu and Shikoku.

Local exporters anticipate a reduction in the volume of exports to the United States of approximately 25 per cent. during 1930 as compared with 1929, due to the depreciation of the value of the yen. Vegetable wax was quoted at 22 yen ($10.78) per 100 pounds exwarehouse Kobe in 1929, while in January, 1930, the price was 30 yen ($14.70). Conversions have been made at the rate of one yen to $0.49.

Sage is holding well at prevailing levels with a good movement reported into consuming channels. Present prices are attractive to buyers and the undertone of the market on this commodity has thereby been strengthened.

The market for Ergot is reported as dull and presenting little of interest. Prevailing prices remain unchanged although it is reported that prices for replacement are easier.

Grains of paradise are well maintained at prevailing prices. Stocks on spot are not reported as large. Demand for this commodity at this time has been routine.

Belladonna leaves are lower at 15c and 17c per lb. Prospects for a good crop are reported with the commodity in fair demand on spot. Stocks in the hands of dealers are ample for any requirements.

Senega is lower on spot at 65c and 70c per lb., a decline during the past month of 15c per lb. Lower prices for new crop are being made in the primary market. Indications point to the fact that dealers desire to move accumulated spot material and are willing to make a sacrifice to do so.

Arnica flowers are easier at 21c and 23c per lb. Crop prospects are good with ample supplies likely. Prices in the spot market have been reduced 1c per lb. during the past month and there is every likelihood that buyers will remain on the better side.

	Current Market		1930 High	1930 Low	1929 High	1929 Low
Papain, Crude, 150 lb cases..lb.	2.75	2.80	3.15	2.75	3.50	2.95
Pure, Powdered, 10 lb bot..lb.	2.90	2.95	3.30	2.90	3.55	3.10
Paprika, bags.....lb.	.21½	.22	.24	.21½	.33	.23½
Pareira Brava Root, bags....lb.	.13	.14	.14	.13	.14	.11
Passion Flower, bales.....lb	.07½	.08½	.10	.07½	.75	.09
Patchouli Leaves, bales....lb.	.20	.21	.23	.20	.23	.22
Pennyroyal, Herb, 100 lb bags .....lb.	.07	...	.07	.07	.07	.07
Leaves, 100 lb bags.....lb.	.14	.16	.16	.14	.16	.14
PEPPERMINT LEAVES, Imp bales.....lb.	.65	.75	.75	.65	.75	.43
Domestic, bales.....lb.	.36	.37	.46	.36	.46	.24
Pichi Leaves, bags.....lb	.12	.13	.14	.12	.16	.13
Pimento Select, bags.....lb.	.15½	.16	.19½	.15½	.30½	.19½
Pink Root, True, bags.....lb.	.50	.52	.57	.50	.60	.55
Pleurisy Root, bags.....lb.	.21	.22	.23	.21	.28	.21
Poke Berries, bags.....lb.	...	.18	.18	.18	.30	.18
Root, 200 lb bales.....lb.	.08	.08½	.08½	.08	.08½	.07½
Pomegrant Bark of Root, bags .....lb.	.30	.35	.35	.30	.35	.20
Bark of Fruit, bags.....lb.	.25	.30	.30	.25	.30	.25
Bark of Tree, bags.....lb.	.18	.22	.22	.18	.22	.15
POPPY FLOWERS, Red, bags .....lb.	.55	.60	.60	.55	.60	.50
Heads, bags.....lb.	.50	...	.50	.50	.50	.50
Prickly Ash Bark.....lb.	.14	.17	.17	.14	.17	.14
Southern bags.....lb.	.13½	.14	.14	.13½	.14	.13½
Northern, bags.....lb.	.15	.16	.16	.15	.18	.15
Berries, bags.....lb.	.23	.24	.24	.20	.21	.19
Prince's Pine, bales.....lb.	.23	.28	.50	.23	.50	.15
Pulsatilla, Herb, bags.....lb.	.11	.12	.12	.11	.14	.12
Pumpkin Seed, bags.....lb.	.14	.15	.15	.14	.15	.14
Quassia Chips, bags.....lb.	.06½	...	.06½	.06½	.06½	.06½
Quebracho, bulk, 125 lb. bbl.lb.	.30	.31	.31	.30	.31	.29
Root, bags.....lb.	...	.07	.07	.07	.07	.07
Quince Seed, bags.....lb.	1.05	1.15	1.15	.80	.80	.70
Persian, bags.....lb	1.30	1.35	1.35	.95	1.25	.80
Rape Seed, South American, bags.....lb.	.05½	.06	.06	.05½	.06	.05½
Dutch, bags.....lb.	.06	.06½	.07½	.06	.07½	.06
Japanese, small bags.....lb.	.04	.04½	.06½	.04	.07	.05½
Raspberries, Dried, bbls....lb.	.45	.55	.60	.45	.60	.45
Red Saunders, bags.....lb.	.08	...	.08	.08	.08	.08
Rhatany Root, bags.....lb.	.11	.12	.13	.11	.13	.11
Rhubarb Root, HD, cases...lb.	.19	.20	.28	.19	.41	.27
Powdered, bbls.....lb	.24	.26	.85	.24	.46	.33
Rosemary Leaves, bales.....lb.	.05	.05½	.05½	.05	.06	.04½
Flowers, cases, bales.....lb.	.25	.30	.25	.25	.30	.25
Rose Petals, pale.....lb.	.28	.29½	.41½	.28	.42½	.40
Red.....lb.	1.40	1.45	1.70	1.40	1.80	1.65
Rue, Herb, bales.....lb.	.18	.20	.20	.18	.20	.18
Sabadilla Seed, bags.....lb.	.29	.30	.31	.28	.34	.28
Powdered, bbls.....lb.	.30	.31	.33	.27	.39	.30
SAFFRON FLOWERS, American, bales.....lb.	.27	.28	.35	.27	.40	.30
Valencia, 1 lb cans.....lb.	8.50	8.75	11.50	8.50	12.00	10.50
Sage Dalmatian, bales.....lb.	.05½	.06	.06	.05½	.06	.05½
Greek, bales.....lb.	.05½	.06	.06	.05½	.06	.05½
Sandarac Gum, 300 lb bbls..lb.	.45	.50	.75	.45	.75	.40
Sarsaparilla Root, Honduras, bales.....lb.	.46	.47	.54	.46	.55	.53
Mexican, bales.....lb.	.16½	.18½	.26	.16½	.40	.24
Sassafras Bark, Ordinary, bales .....lb.	.14	.16	.16	.14	.16	.14
Select, bales.....lb.	.21	.23	.24	.21	.28	.22
Savory Leaves, bale.....lb.	.07½	.08	.09	.07½	.09	.08½
Saw Palmetto Berries, bags.lb.	.09	.10	.10½	.09	.12	.09½
Scammony Resin, boxes....lb.	1.30	1.35	1.35	1.30	1.35	1.30
Root, bags.....lb.	.08½	...	.08½	.08½	.08½	.08½
Senega Root, bags.....lb.	.65	.70	1.05	.65	1.35	1.00
SENNA ALEX., 150 lb cases lb.	.25	.30	.30	.25	.30	.25
Half leaf 150 lb cases....lb.	.12½	.14½	.14½	.12½	.15	.12½
Sifting, 400 lb bales...lb.	.11	.11½	.11½	.11	.11½	.10½
Tinnevelly, Bold, 350 lb bales .....lb.	.16	.18	.18	.16	.18	.16
Medium Leaf.....lb.	.11	.12	.12	.11	.12	.10
Small Leaf.....lb.	.07	.09	.09	.07	.10	.07
Pods, 350 lb.....lb.	.08	.08½	.08½	.08	.11½	.08
Powdered, 200 lb.....lb.	...	.10	.11	.10	.11	.11
Serpentaria Root, bags.....lb.	.56	.59	.68	.56	.72	.65
Shellac, T. N., bags.....lb.	.57	.58	.58	.57	.58	.57
Simaruba Bark, bales.....lb.	.25	.27	.28	.20	.40	.20
Skullcap Leaves, Eastern, bales .....lb.	...	.75	.75	.75	.75	.40
Western, bales.....lb.	.25	.26	.35	.25	.35	.18
Skunk Cabbage, Striped, bales .....lb.	.13	.15	.16	.13	.16	.14
Snake Root, Canada Natural, bags.....lb.	.27	.28	.28	.27	.28	.24
Canada, Stripped, bags...lb.	.55	...	.55	.55	.55	.55
Soap Bark.....lb.	.14	.15	.15	.14	.15	.14
Cut, 125-175 lb bags...lb.	.09½	.10	.11½	.09½	.16	.11
Crushed, 200 lb bbls....lb.	.16	...	.16	.16	.16	.16
Powdered, bbls.....lb.	.15	...	.17	.15	.17	.17
Spearmint Leaves, American, bales.....lb.	.35	.36	.37	.32	.37	.25
Spermaceti, blocks, cakes, cases .....lb.	.32	.35	.35	.32	.35	.32
Spikenard Root, bags.....lb.	.18	.18½	.20	.18	.20	.18½
Squaw Vine, bales.....lb.	.17	.18	.21	.17	.21	.18
Squills, White.....lb.	.07½	.08½	.10	.07½	.13	.09
Powdered, bulk.....lb.	.23	.25	.25	.23	.25	.20
Stavesacre Seed, bags.....lb.	.14	.15	.17	.14	.18	.16
Stillingia Root, bags.....lb.	.08	.09	.10	.08	.12	.09
Stone Root, bags.....lb.	.08	.09	.09	.08	.09	.08
St. Ignatius Beans, bags....lb.	.14½	.15	.15	.14½	.15	.14½
St. John's Bread, bags.....lb.	...	.09	.09	.09	.09	.09
STRAMONIUM LEAVES, bales.....lb.	.14	.16	.18	.14	.20	.16
Seed, bags.....lb.	.07½	...	.07½	.07	.07½	.07½

Drugs and Spices

Monthly Review

Japanese Drug Exports

According to the preliminary statistics published by the Department of Finance, the values of the principal commodities of interest to the drug, chemical, and essential oil trade exported from Japan to all countries during the quarter ended March 31, 1930, arranged in the order of their respective values and compared with the exports in the corresponding period of 1929, may be summarized as follows:

	1st Quarter 1929 1,000 Yen	*1st Quarter 1930* 1,000 Yen
Agar agar	1,519	1,605
Peppermint oil	653	686
Dried plants for insectifuge	931	637
Menthol crystals	1,389	1,089
Camphor	2,143	663

(Average value of yen is $0.4933 United States currency.) (Consul Charles L. De Vault, Tokyo.)

Poland Sends Ergot and Lycopodium

Polish exporters of lycopodium report that as a result of competition from Russia, there were no exports declared to the United States through the Free City of Danzig during the first quarter of 1930 as against 4,200 pounds, valued at $2,740 for the first quarter of 1929. Exports of ergot from Poland to the United States through Danzig for the first quarter of the current year decreased to 560 pounds against 850 pounds during a similar period last year. (Consul R. F. Fernald, Free City of Danzig.)

Substitute for Santonin

Pratas Island, 180 miles from Hong Kong and abut 10 miles from Swatow, is noted for its fishery products and seaweed. Approximately 4,000 piculs of seaweed are gathered in a year, the time of collection being from March to October. A Chinese is said to have obtained authority from the Cantonese Government for working rights on Pratas Island for the year 1930. This individual is said to have signed a contract with a Japanese for the bulk of the supply of hoi yan grass during 1930. The principal buyers of Pratas seaweed are Japanese, who sell most of the product to Germany. If American manufacturers are interested in this product, they can obtain limited quantities during 1930. The seaweed is partly sun dried and is packed in double gunny bags containing 100 pounds. The suppliers claim that this seaweed is valuable in the manufacture of medicines and that it contains anthelmintic properties resembling santonin.

According to Mr. Bernard E. Read of the Peking Union Medical College, certain Japanese firms claim unusual value for Pratas seaweed as an anthelmintic, their claims being based upon numerous researches in Japanese laboratories. Mr. Read feels that there is need for investigation by American or European workers.

Elm bark is now offered at 30c and 31c per lb. New crop is good with plentiful supplies both here and at the source of supply. This is the main reason for reductions on spot.

	Current Market	1930 High	1930 Low	1929 High	1929 Low
Strophanthus Seed, Kombe, bags lb.	2.25	2.50	2.25	2.50	2.00
Styrax Liquid, Artificial lb.	.26	.35	.26	.35	.26
Genuine, USP lb.	.40	.45	.40	.45	.40
Sunflower Seed, bags Calif lb.	.04¾	.05	.04¾	.07	.06
South American, bags lb.	.07	.07½	.07	.07½	.07
Tamarinds, bbls lb.	.10	.11	.09½	.10	.05
Kegs keg	3.85	...	3.85	3.75	3.85
Tansy, Herb, bales lb.	.15	.16	.15	.16	.11
Thus Gum, 280 lb bbls lb.	.08	.17	.20	.08	.20 .11½
THYME, Spanish, bales lb.	.08¾	.09¼	.16	.09¼	.16 .08½
French, bales lb.	.09¼	.09½	.11½	.09¼	.12½ .08
Tonga Root, bundles lb.	.25	.26	.42	.25	.42 .42
Bark, bundles lb.	.25	.26	.42	.25	.42 .42
Tonka Beans, Angostura Cases	1.75	1.85	1.85	1.75	2.00 1.75
Para cases lb.	.90	...	.90	.90	.90 .90
Surinam cases lb.	1.00	1.10	1.10	1.00	1.50 1.00
Tragacanth Gum, No 1, 100 lb. cases lb.	1.45	1.50	1.50	1.45	1.60 1.50
No. 2 lb.	1.30	1.40	1.40	1.30	1.50 1.30
No. 3 lb.	1.10	1.20	1.20	1.10	1.30 1.10
Powdered, 50 lb boxes lb.	.90	1.00	1.00	.90	1.10 .90
Turkish cases lb.	.50	.90	.90	.50	.90 .45
Turmeric Root Madras, bags lb.	.08¼	.08¾	.08¾	.08¼	.09 .08½
Aleppy bags lb.	.07⅜	.07¼	.09	.07⅜	.10 .08½
Powdered lb.	.13	.15	.15	.13	.15 .13
China bags lb.	.11	.12	.12	.11	.12 .11
Turpentine Venice True, 80 lb cases lb.	.32	.40	.40	.32	.40 .32
Artificial, 80 lb cases lb.	.17	.18	.18	.17	.18 .17
Uva Ursi Leaves, bales lb.	.06	.06½	.06½	.06	.06½ .06
Valerian Root, Belgium, bags lb.	.14	.16	.21	.14	.30 .19
VANILLA BEANS, Mex can, whole, cases lb.	4.25	5.50	5.50	3.50	4.50 3.25
Cuts, cases lb.	3.25	3.40	3.40	2.75	3.30 2.50
Bourbon, cases lb.	1.50	1.90	2.50	1.50	2.65 1.75
South American, cases lb.	3.00	3.25	3.25	2.85	3.00 2.50
Tahiti, Green, label cases lb.	...	Nom.	2.00	1.75	2.50 1.75
Vetivert Root, 100 lb bags lb.	.25	...	.25	.25	.25 .25
Violet Flowers, bags lb.	.75	.80	.80	.75	1.00 .68
Wahoo Bark of Root, bags lb.	.52	.53	.53	.52	.56 .51
Bark of Tree, bags lb.	.25	.26	.26	.25	.31 .25
White Pine Bark, Roseed, bags lb.	.07½	.09½	.09½	.07½	.15 .07
White Poplar Bark, bags lb.	.06	.07½	.07½	.06	.07½ .05½
Wild Cherry Bark, Thin, Green lb.	.14	.15	.15	.14	.20 .14
Rossed bales lb.	.11	.12	.12	.11	.12 .11
Thick Rossed, bales lb.	.08	...	.09	.08	.09 .09
Thin Natural, bales lb.	.08	.09	.09	.08	.09 .07½
Thick Natural, bales lb.	.06	.06½	.06½	.06	.06½ .05
Wild Indigo Root, bags lb.	.13	.14	.15	.13	.15 .13
Willow Bark, bags lb.	.05	.05½	.05½	.05	.05½ .05
White, bags lb.	.15	...	.15	.15	.15 .15
Witch Hazel Bark, bags lb.	.06	.07	.08	.06	.08 .05½
Leaves, bales lb.	.07	.08	.08	.07	.08 .06½
Wormseed, American, bags lb.	...	.08½	.11	.08½	.13 .10
Levant, bags lb.	3.50	3.65	3.00	3.50	4.15 3.65
Wormwood, Herb, Imp., bales lb.	.08	.08¼	.08¼	.08	.10¼ .08
Yellow Dock Root, bags lb.	.10	.11	.14	.10	.14 .10
Yerba Mate, bags lb.	.18	.20	.20	.18	.20 .18
Santa, bags lb.	.09	.10½	.11	.09	.11½ .09½
Zedoary Root, bags lb.	.07	.08	.08	.07	.08 .06½

Miscellaneous

Castor Oil, odorless, bbls lb.	...	.13½	.14½	.13½	... ...
Chalk drop, 175 lb. bbls lb.	...	.03¼	.03¼	.03¼	.03¼ .03¼
Precip. light, 250 lb. cask lb.	...	.04½	.04½	.04½	.04½ .04½
Heavy 540 lb. casks lb.	...	.02½	.02½	.02½	.03½ .02½
Bulk ton	...	5.00	5.00	5.00	5.00 5.00
English light, bags lb.	...	.04¾	.08¼	.08¼	.08¼ .08¼
English light, casks lb.	.05¼	...	...	...	... ...
Cocoa Butter, 12 lb. box lb.	.42	.45	.45	.42	.45 .42
Cod Liver Oil Nor. 30 gal. bbls	.28	.30	31.00	28.00	36.00 22.00
Newfoundland bbl.	...	30.00	30.00	30.00	46.00 30.00
Collodion U. S. P. 30 lb. dr lb.	...	.23	.23	.23	.23 .23
Corn Syrup 42° 50 gal. bbl. 100 lb.	3.91	4.16	4.16	3.91	4.16 3.91
Gelatin, USP, Silver 100 lb. cases lb.	.55	.60	.60	.55	.60 .55
Pure Food, 50 lb. bbl lb.	.53	.55	.55	.53	.55 .55
Glucose, (grape sugar) dry 70° bags c-1 NY 100 lb.	3.14	3.24	3.24	3.14	3.24 3.14
Haarlem Oil, bot 6 gross cases gross	...	3.75	3.75	3.75	3.25 3.25
Imported, 5 gr. cs gross	...	3.50	3.50	3.50	3.50 3.50
Mineral Oil White, 50 gal. bbls. 80-85 vis. gal.	.50	.55	.55	.50	.67 .50
85-90 vis. gal.	.65	.70	.70	.65	.70 .65
125-130 vis. gal.	.75	.85	.85	.75	.92 .65
290 vis. gal.	.90	1.10	1.10	.90	1.10 .90
Russian 110-115 vis. gal.	.69	.79	.80	.69	.80 .70
145-155 vis. gal.	.72	.82	.84	.72	.89 .67
320-330 vis. gal.	.80	.90	.92	.80	.97 .75
Olive Oil, Edible bbls gal.	2.00	2.40	2.40	2.00	... ...
Petrolatum, Lily White, USP. 400 lb. bbl lb.	.08	.09	.09	.08	.09 .08
Snow White USP, 400 lb. bbls lb.	.09¼	.10	.10	.09¼	.10 .09¼
Soap Castile, bars 50 lb. box lb.	...	.25			
Powd. USP 250 lb. bbls lb.	...	.20			
Green, USP, 450 lb. bbls lb.	.07¼	.07½			
Neutral, powd. bbls lb.	.17	.18			

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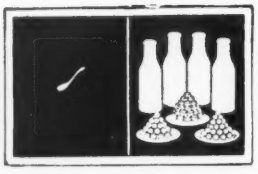

ALL THE BUTTER AND MILK ANY INDIVIDUAL CAN EAT AND DRINK IN A DAY

NORWEGIAN COD LIVER OIL

Medicine Show Tactics

(*Continued from page 28*)

It is interesting to note the efforts of a fine house with products that have taken millions of dollars to bring to their present stage—bringing into their merchandising efforts that border on the medicine show, indicating that the good will of the people who are above such approach, can be ignored. If I have been using a product in part due to my faith in the company that produces the item, and I find that the manufacturer attempts to amuse me by a spiritualistic education, my reaction is that my appreciation of the product is reduced in proportion to my lack of appreciation of the method.

Being asked by the gentleman with whom all this discussion started, what my opinion was as to results, I expressed them as herein; that irrespective of how the sale of these products grow through this hypodermic influence, when the needle is out, the products establish new lows. Then new hypodermics have to be arranged, stronger and more potent, to keep the items in existence.

Moral—Flavors are important also; change is the universal habit, from, as well as, to.

Frank J. Lynch.

Hillside, N. J.
June 10, 1930.

Selling to France

(*Continued from page 34*)

on their own ground. Unless the exporter is so minded, he is bound to lose money, for many of the sales methods used in the United States are simply not workable in France.

There are also questions regarding the proper way of handling the customs duty problem coming up for solution constantly. Mercurochrome, for instance, is brought into France in bulk. The bottles, labels, etc., are all secured in the United States and shipped into France. Filling and packaging is done in France. In this way are avoided many difficulties which would have to be ironed out in France to the detriment of the successful sale of the product. Each product handled must be treated individually, applying to it the measures which will make it more saleable and profitable to import.

Exports to France of specialties like those considered can be stepped up to substantial figures with a little study of the conditions encountered among the French. A reasonably low export price, a willingness to appeal to the Frenchman in his own language, together with the choice of a capable representative and a fair advertising budget, make for a combination that will produce business for the American manufacturer of drug, toilet and similar specialties. And there is nothing like a good volume of export business to keep stationery stocks moving and off the shelves.

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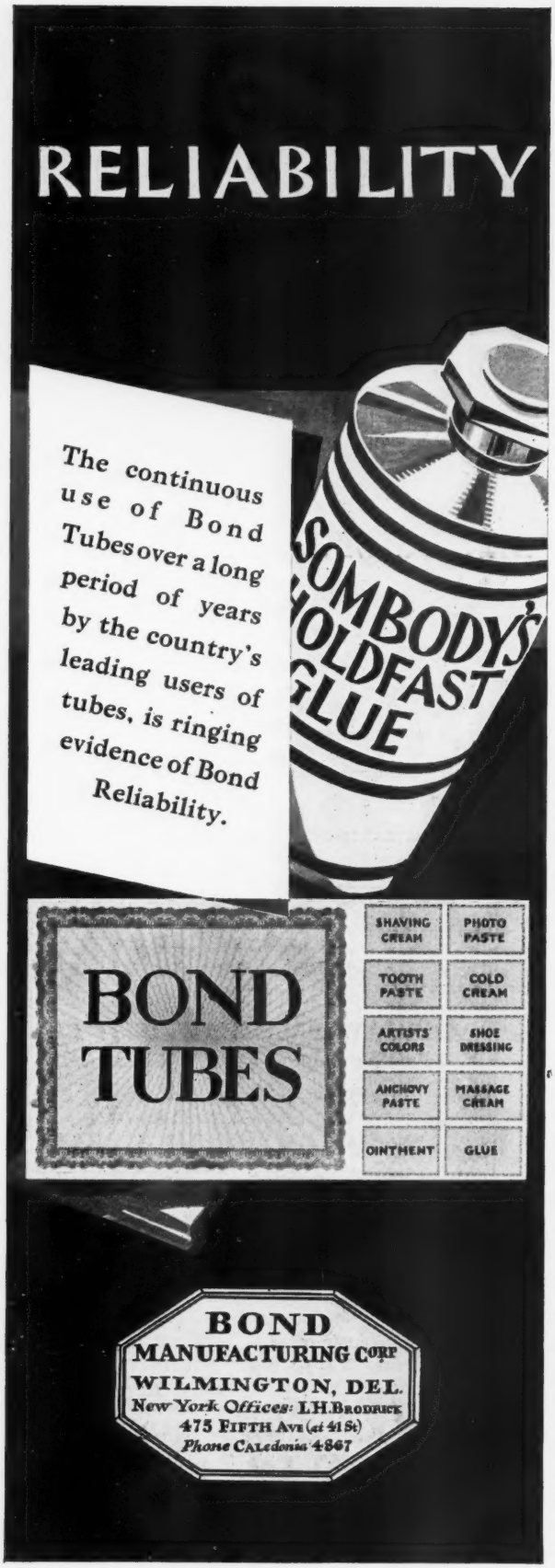

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